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Sustainability Report 2010/11

Fuel Efficiency

Our incoming vehicle models are getting better fuel efficiency than their outgoing model counterparts.

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Our New Water Strategy

Our Company has developed, and is implementing, a new water strategy.

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Financial Health

Ford has turned the financial corner.

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"Intelligent" Vehicles

We are expanding our commitment to research and develop vehicles that can wirelessly "talk" to each other.

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Blueprint for Sustainability

We're implementing our "blueprint for sustainability" – our long-term strategy to contribute to climate stabilization.

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Electrification Strategy

Our electrification strategy foresees a future that includes different types of electrified vehicles, depending on customers' needs.

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Supply Chain

Ford is collaborating with other companies in our industry on key human rights issues.

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Perspectives on Sustainability

Read what experts (like Sister Patricia Daly of the Tri-State Coalition for Responsible Investment) have to say about our efforts.

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ABOUT THIS REPORT

This report is aligned with the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines, at an application level of A.

climate change, electrification, employees, financial health, fuel economy, governance, human rights, materiality, mobility, public policy, quality, supply chain, technology, vehicle safety, water

HIGHLIGHTS

Ford was honored for the second year by the Ethisphere Institute as one of the World's 100 Most Ethical Companies.
Ford ranks #1 in the Human Rights category in Corporate Responsibility Magazine's 100 Best Corporate Citizens list.
The all-new Ford Explorer has soy foam seats and industry-first inflatable rear safety belts.
Ford was listed among *Newsweek's* Top 100 Green Companies for the second consecutive year.
Ford reduced landfill waste per vehicle by 12.4 percent in 2010, relative to 2009.
Ford was named to Fast Company's 2010 list of "Top 10 Most Innovative" companies in mobile technology.
Ford Figo earned the "Indian Car of the Year" award.
The all-new Ford Explorer earned the "Truck of the Year" honor at Detroit's North American International Auto Show.
In the U.S., Ford tied with Honda for fewest "things gone wrong" after three months in service among full-line automakers.
Ford's full-year sales increased by 19% in 2010, while market share increased for the second year in a row.
Ford's global lost-time case rate (a major workplace safety indicator) improved 11 percent from 2009 to 2010.
Ford continues to win recognition for our diversity efforts.
Ford supported hundreds of charitable organizations in 2010, with grants totaling $29 million.
Ford employees and retirees provided more than 112,000 hours of service work in 2010.
Ford reduced CO_2 emissions from facilities, on a per-vehicle basis, by 30 percent over the past decade.
In the U.S., four Ford vehicles achieve 40 mpg or better.
The 2011 Ford F-150's 3.7L V6 is the most fuel-efficient full-size pickup engine of any manufacturer.
By 2013, Ford expects to be producing about 1.5 million EcoBoost™ fuel-saving engines globally.
In 2010, we began production of the Transit Connect Electric, the first of five electrified vehicles.
In China, we offer the Ford Mondeo, which is best in its segment for fuel economy.
In India, the Ford Figo 1.4L TDCi diesel offers best-in-class fuel economy.
For the sixth year in a row, the U.S. Environmental Protection Agency recognized Ford with an Energy Star Partner of the Year Sustained Excellence Award.
Ford invested $1 million to expand Ford Driving Skills for Life – our teen driver education program – to 15 states.
Ford has earned more five-star crash-test ratings than any other manufacturer in 30 years of NHTSA testing.
The 2011 Ford Fiesta was the first vehicle in its class to achieve an IIHS Top Safety Pick.
Ford's new Curve Control technology senses – and responds – when the driver takes a curve too quickly.
Together with other automakers through the AIAG, we have trained 1,260 suppliers in five countries on systemic solutions to working conditions challenges.
In 2010, Ford was the only automotive company to participate in the Carbon Disclosure Project's Supply Chain Program.
Since 2003, we have conducted more than 750 assessments of existing and prospective Tier 1 suppliers in 20 countries.
For the first time, Ford identified water as a top sustainability concern for the Company.
In 2010, Ford refined our corporate water strategy.
Ford reduced water use per vehicle by 8.5 percent in 2010.
Ford won "Business Turnaround of the Year" from American Business Awards.
Ford's full-year 2010 net income was our highest in more than a decade.
Ford announced plans to add 7,000 new hourly and salaried jobs in the U.S. between 2011 and 2012.
Ford developed a new project in India exploring how automobiles can provide economic opportunities for rural communities.

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Overview

IN THIS SECTION...

Executive letters | Performance summary | Goals and commitments table | Map of our year

This is the 12th annual nonfinancial report of Ford Motor Company. Our vision for our sustainability reporting is that it is the basis of organizational learning. It demonstrates our values, and both reflects and drives outstanding economic, environmental and social performance. Our most recent previous report was released in June 2010.

We try to focus our reporting on Ford's most important sustainability issues and those of most interest to report users and our stakeholders. We have formalized this approach through a structured materiality analysis, which has been used to identify our most material sustainability issues. The issues that rated highest in potential impact on the Company and concern to stakeholders are covered in the Material Issues section of this web report.

Comprehensive information on a range of other significant issues is included in this report in the Governance, Economy, Environment and Society sections. We are also publishing an eight-page summary of this report for use by employees, customers and other stakeholders.

Data in the report are subject to various forms of assurance. Draft and near-final versions of the print report were reviewed by a Ceres stakeholder committee that included representatives of environmental groups and socially responsible investors.

We see reporting as an ongoing, evolving process, not an annual exercise. Further information about our reporting approach can be found in the Reporting and Transparency section of this report. We expect our reporting to evolve further and invite your feedback on this report, and our approach to reporting, at sustaina@ford.com.

In This Section

This section of our web report includes our Chairman's and our CEO's perspectives on sustainability at Ford, a summary of 2010 performance data and discussion of assurance of this report.

The Fine Print

This report is aligned with the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines, released in October 2006, at a self-checked application level of "A." See the GRI Index for a complete index of GRI indicators. More information on the GRI and the application levels can be found on the GRI website.

This report also serves as Ford's annual United Nations Global Compact (UNGC) "Communication on Progress," providing discussion on Ford's implementation of the 10 principles of the UN Global Compact and support for broad UN development goals. Please see the UNGC Index for information on where the UNGC principles are covered in this report.

This report covers the year 2010 and early 2011. The data are primarily for 2010 (for operations) and for the 2010 and 2011 model years (for vehicles).

Consistent with the GRI Guidelines' guidance on boundary setting, the data in this report cover all of Ford Motor Company's wholly and majority-owned operations globally, unless otherwise noted. Data measurement techniques, the bases of calculations, changes in the basis for reporting or reclassifications of data previously reported are noted in the data charts.

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Letter from William Clay Ford, Jr.

"The mobility challenge – and other global challenges we face as a society and an industry – present us with an incredible opportunity to add value for our stakeholders and shareholders. Companies that address these issues with solutions that customers want will gain a significant competitive advantage."

As I look back on the last few years, I am inspired by how quickly and completely our company has transformed itself: from significant losses to significant profits; from a U.S. company with a global presence to one that is truly integrated globally; and from a company that was at times satisfied with average performance to one that is taking a leadership role in fuel economy, safety, environmental performance and technological innovation. In short, we have gone from being a company with a storied past to one with a storied past *and* a promising future.

We plan to build on this progress as the world economy recovers, using innovative technology to tackle global challenges. In 2010, for example, we began delivering a battery-powered Ford Transit Connect commercial van, the first of a new family of advanced lithium-ion battery-charged vehicles we are launching over the next three years. In 2011 we will begin selling the Ford Focus Electric, a battery-powered car, to the general public. Three other vehicles, including two next-generation hybrids and a plug-in hybrid, will launch in North America in 2012 and Europe in 2013.

We are offering a full range of electrified vehicles to make it easier for our customers to embrace this exciting new technology. In addition, we are doing everything we can to make these vehicles as affordable as possible. We are building our electrified vehicles on our highest-volume global vehicle platforms to reduce costs and increase quality. This also gives us more flexibility to meet market demand in different regions of the world and to ramp up production quickly if demand exceeds our projections.

We are also improving fuel economy across our entire portfolio to meet the needs of our customers and fulfill our commitment to reduce carbon dioxide (CO_2) emissions from our vehicles. For example, the all-new Ford Explorer with a 2.0L EcoBoost™ engine will have up to a 30 percent fuel economy improvement over the previous model.

You will find many more such examples throughout this report, as well as a detailed discussion about progress toward our science-based commitment to help stabilize CO_2 concentrations in the atmosphere at 450 ppm. That may sound complicated, but it is really quite straightforward. We figured out how much we need to reduce CO_2 emissions from Ford products and operations to do our share to keep atmospheric CO_2 concentrations from rising to a critical level. Then, we set a goal to reduce our emissions by that amount. We cannot achieve the needed reductions overnight, so we have mapped a series of reductions over time for each of the major regions in which we operate. We continue to plan our long-term global product portfolio to achieve these reductions.

A growing population and increased prosperity around the world will create tremendous opportunity for the automotive industry, as well as significant challenges. Today, there are about 800 million cars on the road, worldwide. With more people and higher levels of income in developing countries, experts predict that number could grow to between 2 and 4 billion vehicles by mid-century.

This growing vehicle population will increase concerns about the availability and affordability of fuel and the impact of CO_2 emissions on the environment. In addition, in the decades to come, 75 percent of the world's population will live in cities, and 50 of those cities will have populations of more than 10 million people each. Traffic congestion and other mobility challenges could limit economic growth and compromise the quality of life in these crowded urban areas.

As we reach the limits of conventional models of mobility, we are looking at different models that offer a practical route forward. New approaches take a more holistic view of transportation needs and options, relying on collaborative partnerships and information technology to bring together existing services, products, technologies, infrastructure and design into something that is greater than the sum of its parts – smarter, more sustainable, more convenient, more equitable and better

connected. We are exploring ways to leverage technological innovations to tackle mobility challenges.

For example, we are aggressively accelerating our commitment to wirelessly connected "intelligent" vehicles, also known as vehicle-to-vehicle communications. In 2011 we are doubling our investment in intelligent vehicles, forming a new 20-member task force of scientists and engineers to explore the technology's broader possibilities and becoming the first automaker to build prototype vehicles for demonstrations across the U.S.

We believe intelligent vehicles that "talk" to each other through advanced Wi-Fi could revolutionize the driving experience, helping drivers avoid collisions and easing traffic delays to save both time and fuel costs. Congestion could be avoided through a network of intelligent vehicles and infrastructure that would process real-time traffic and road information and allow drivers to choose alternate routes.

The mobility challenge – and other global challenges we face as a society and an industry – present us with an incredible opportunity to add value for our stakeholders and shareholders. Companies that address these issues with solutions that customers want will gain a significant competitive advantage. That is the strategy we are pursuing at Ford. It is consistent with the long-held values of our company. It also positions us to continue to thrive by providing great products and value to society that build a strong business and a better world.

William Clay Ford, Jr.
Executive Chairman
June 2011

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Letter from Alan Mulally

"We promote sustainable business practices not only in our own global operations, but throughout our entire supply chain. We are leading an industry-wide supply chain approach to ensure that all components used in our products are manufactured under conditions that demonstrate respect for the people who make them."

At today's Ford Motor Company, we are truly driving change. In the past few years, we have restructured and revitalized the Company under extremely challenging economic conditions. Throughout the global recession, we never lost sight of the environmental and social goals that are key elements of our business strategy. Indeed, our focus on those goals was an important factor in our financial recovery. By delivering cars that are greener, safer and smarter, we enhanced our competitiveness and built stronger relationships with our customers.

Now, we are better positioned than ever to deliver on our commitment to sustainability. We have integrated sustainability goals and governance throughout our organization. We have organized our regional operations into a single global team to maximize economies of scale. This also enabled us to align and fully leverage our worldwide research and development resources so that we can introduce innovative product features at a faster pace. For example:

- We have committed to being a leader in fuel economy with every new product. Globally, we have introduced dozens of new vehicles that meet or beat their competitors for fuel economy.
- The average fuel economy of Ford's North American vehicle lineup improved by approximately 20 percent between 2005 and 2010, and we are on track to boost fuel economy by more than 35 percent by 2015. This also puts us on the path to meet or exceed our science-based global goal to do our share to stabilize atmospheric carbon dioxide (CO_2) concentrations.
- Our vehicles continue to garner top safety ratings. The 2011 Ford Fiesta, for example, is the first car in its segment to earn top crash test ratings in each of the world's largest auto markets that perform safety testing – the U.S., China and Europe.
- We received a number of prestigious vehicle awards in 2010 and 2011: the all-new Ford Explorer was named "Truck of the Year" at the North American International Auto Show; the Ford Focus was named the official car of the Consumer Electronics Show; and the Ford Figo was awarded Indian Car of the Year 2011 by a leading jury of automobile journalists.
- In the U.S., the quality of our vehicles tied with Honda's for the fewest number of "things gone wrong" after three months in service among all full-line automakers. Ford also reduced "things gone wrong" in Europe, Asia Pacific and Africa, and South America.

We continue to make progress in other important areas as well. Since 2000, our manufacturing facilities worldwide have reduced overall energy use by 40 percent, decreased CO_2 emissions by 49 percent and cut water use by 62 percent. During 2010 we updated our water strategy, in recognition of the importance of freshwater to our communities and to our own operations and in recognition of the interconnections between the availability and quality of water and other issues like climate change.

We also promote sustainable business practices not only in our own global operations, but throughout our entire supply chain. We are leading an industry-wide supply chain approach to ensure that all components used in our products are manufactured under conditions that demonstrate respect for the people who make them. We are also working with suppliers to promote environmentally sustainable practices and to better understand impacts in our supply chain. In 2008 we joined the United Nations Global Compact, which endorses a framework of principles in the areas of human rights, labor and the environment. We continue our commitment to these principles.

In communities around the world, our philanthropic organization, Ford Motor Company Fund and Community Services, supports nonprofit organizations in three major areas: innovation and education, community development and legacy, and driver safety education. Also, Ford employees around the world are actively engaged in making a positive difference in their

communities. Our Ford Volunteer Corps, which was established in 2005, encourages salaried employees to take two work days per year to serve as volunteers. In 2010 some 27,000 Ford employees and retirees in 41 countries provided more than 112,000 hours of work on more than 1,100 community service projects.

In 2011 we were honored to be recognized as one of the world's most ethical companies for the second year in a row by the Ethisphere Institute, a leading business ethics think tank. This award is based on an extensive review of companies' social responsibility efforts, corporate governance and business practices. We also ranked first in the Human Rights category in Corporate Responsibility Magazine's 100 Best Corporate Citizens list. More examples of our progress can be found throughout this report and in the "Map of Our Year."

I am proud of the outstanding job the Ford team is doing around the world to advance our economic, social and environmental agenda, and I am confident their good work will continue in the future. After several years in which we were challenged to recover our financial footing and responsibly restructure our business, we are now challenged to grow our business and expand our global presence – and to do so responsibly. Our greatest growth will come outside of the mature markets of the U.S. and Europe. In 2010, for example, Ford sales increased by 32 percent in China and by 168 percent in India. We are making substantial investments in plants and creating jobs in all our global regions. In 2010, we announced more than $9 billion in global investments for future growth, including $4.5 billion in North and South America, $2.9 billion in Europe and $1.7 billion in our Asia Pacific and Africa region.

Our integrated approach to sustainability will help us be a trusted partner in expanding in markets around the world as we tackle global sustainability challenges. Our emphasis on resource efficiency in our products and operations also positions us well to weather a period of rapidly rising costs for energy and materials. By remaining true to our values and staying focused on our sustainability goals, we can deliver profitable growth for all associated with Ford.

Alan R. Mulally
President and Chief Executive Officer
June 2011

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Letter from Sue Cischke

"We're working to continuously improve the efficiency of our products and processes so we use less energy, water and other resources. As a result of these efforts, our customers get vehicles with improved fuel economy, safety and quality. Innovation at Ford is driving changes both incremental and fundamental."

At Ford Motor Company these days, change is a part of our DNA, and we're using it to deliver great results. From where I sit, you don't have to look far to see the transformation of our Company. About 10 miles from my office is the Michigan Assembly Plant in Wayne, formerly known as the Michigan Truck Plant. We've invested $550 million there to create a modern and flexible plant capable of making five fuel-efficient vehicles, including three electrified vehicles. Among many innovative features described in this report, the plant gets power from two forms of renewable energy. It uses gas from a nearby landfill and is equipped with a 500-kilowatt solar power generation system, including a demonstration battery storage system for the plant. And, to support these new products, we plan to bring our vehicle battery development and production inside Ford, adding 1,000 new jobs in our headquarters state.

Driving Change Globally

The Michigan Assembly Plant is not a singular showpiece. Around the world, you'll find similar signs of transformation. Our Dagenham Diesel Centre in the UK is powered by two wind turbines, with a third to be added this year. From Chennai, India, to Chihuahua City, Mexico, we're implementing water reuse and conservation projects in line with our sharpened strategic focus on water management. On the safety front, our Fiesta small car is popular around the globe and is the first vehicle in its class to win top safety ratings in every major automotive market, including the U.S., Europe and China.

Less visible, but no less important, is our work to continuously improve the efficiency of our products and processes so we use less energy, water and other resources. As a result of these efforts, our customers get vehicles with improved fuel economy, safety and quality. Innovation at Ford is driving changes both incremental and fundamental.

Progress through Collaboration

Another important driver of progress is collaboration and partnership. The solar energy project at the Michigan Assembly Plant, for example, is being installed and managed through a joint effort among Ford, DTE Energy Co., Xtreme Power, the City of Wayne, Michigan, and the State of Michigan. To make our new plug-in electric vehicles more compelling and convenient for customers, we are collaborating with a range of organizations – from electric utilities and technology companies to local governments and regional authorities – to establish the needed infrastructure. We are also working even more closely with other automakers and our suppliers to make our entire value chain more sustainable – environmentally, socially and economically.

Results

The data in this report show many positive trends, including in our per-vehicle performance. However, because our production increased in 2010 versus 2009, the total energy we used increased. We will continue to focus on our per-vehicle reduction while monitoring our overall vehicle energy use.

There are also some areas where changes to how performance is measured may mask the real progress we are making. For example, the two major public domain vehicle safety rating systems in the U.S. and the major European system all modified their tests recently to make it harder to attain the top rating. Despite the changes, we are continuing our safety leadership, and our vehicles are safer than ever. Our safety data for the U.S. and Europe start with a new 2010 baseline, because the most recent test results are not comparable to those from prior years.

In this report, you will find many examples of how we are significantly improving the fuel economy

Related Links

This Report:
- Climate Change

of our new and refreshed vehicles. You will also find a very long list of vehicles that lead their class in fuel economy. In the U.S., our fleet fuel economy and carbon dioxide (CO_2) emission numbers (final and projected) may not reflect the actual progress we have been making for the 2010 and 2011 model years, in part because of changes the government made to how fleet fuel economy is calculated. For example, in the 2011 model year, certain vehicles that were formerly classified in the truck category were moved to the car category. This reduced the fuel economy averages for both categories even as the combined fleet average is projected to improve by about 3 percent.

I also want to touch on a difference between this report and those of the past few years. In this report, you'll find a detailed explanation of our science-based climate stabilization goal. We are focusing on this goal because it serves as a compass for both the short and long term – a way for us to gauge the actions we need to take to cut emissions from our products and operations enough to make a meaningful contribution to addressing the challenge of global climate change.

In past reports, we have stated a goal for the U.S. and Europe to reduce the CO_2 emissions of our U.S. and European vehicles by 30 percent by 2020 relative to the 2006 model year. We continue to report on the CO_2 emissions of our vehicles in these regions compared to the 2006 baseline, and we are on track to exceed the goal. With high confidence that this goal will be delivered, our product planning has now moved beyond that goal toward alignment with region-specific glide paths to achieve the overall science-based stabilization goal – and that is what we will emphasize in this and future reports.

To complement our product CO_2 goal, in early 2011 we adopted a goal to reduce facility CO_2 emissions by 30 percent by 2025 on a per-vehicle basis, compared to 2010. While we were already reducing these emissions – between 2005 and 2010 we cut our facility CO_2 emissions by 37 percent in total and 21 percent on a per-vehicle basis – the new goal gives us a longer-term commitment consistent with our stabilization goal.

Integration in a Global Organization

For the past year, we focused on making our Sustainability, Environment and Safety Engineering group a more global organization to leverage our expertise and to prepare for growth in areas beyond the U.S. and Europe. This change brings together our global experts in sustainable business strategies, vehicle environmental engineering, vehicle safety, manufacturing environmental management, and safety and environmental regulatory compliance. It helps us monitor trends, risks and opportunities and develop a global perspective to properly anticipate regulations and customer expectations and make sure our product and business plans are aligned to meet them.

This restructuring is further evidence of both the integration of sustainability into our fundamental business processes and the true globalization of our Company. It will support our continued transformation and help enable the robust delivery of our products into markets around the world, achieving excellence in sustainability, environmental performance and safety.

Sue Cischke
Group Vice President, Sustainability, Environment and Safety Engineering
June 2011

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Performance Summary

Below is a summary of our key performance data. Please also see the Overview for discussion of data parameters and the Economy, Environment and Society data sections for additional indicators, five-year trends and notes on data assurance.

Economy | Environment | Society

Economy

	2008	2009	2010
Global Quality Research System things gone wrong (3 months in service), total things gone wrong per 1,000 vehicles	1,287	1,206	1,140
Global Quality Research System customer satisfaction (3 months in service), percent satisfied	77	80	82
Sales satisfaction with dealer/retailer, Ford brand, U.S., net promoter score	84	82	84
Sales satisfaction with dealer/retailer, Ford brand, Europe, net promoter score	81	77	82
Service satisfaction with dealer/retailer, Ford brand, U.S., net promoter score	74	74	74
Service satisfaction with dealer/retailer, Ford brand, Europe, net promoter score	70	67	69
Shareholder return – Bloomberg total return analysis, percent	-66	337	68
Net income/loss, $ billion	-14.7	2.7	6.6
Sales and revenue, $ billion	146.3	116.3	129.0

Environment

	2008	2009	2010
Ford U.S. fleet fuel economy, combined car and truck, miles per gallon (higher mpg reflects improvement)[1]	26	27.1	26.9
Ford U.S. fleet CO_2 emissions, combined car and truck, grams per mile (lower grams per mile reflects improvement)	340	326	329
Ford Europe CO_2 tailpipe emissions per vehicle, grams per kilometer (based on production data for European markets)	146	139	NA[2]
Worldwide facility energy consumption, billion kilowatt hours	17.9	15.1	16.1
Worldwide facility energy consumption per vehicle, kilowatt hours per vehicle	3,561	3,272	3,087
Worldwide facility CO_2 emissions, million metric tonnes	5.4	5.0	5.3
Worldwide facility CO_2 emissions per vehicle, metric tonnes	1.09	1.07	1.01
North American Energy Efficiency Index, percent (higher percentage reflects improvement)	11.7	18.3	14.4

1. The decrease in year-over-year fuel economy is due to a shift in our mix of vehicles sold, including a longer model year for certain trucks and the removal of Volvo from the 2010 data.
2. Data to be updated July 2011.

Society

	2008	2009	2010
Employee satisfaction, Pulse survey, overall, percent satisfied	66	68	68
Overall dealer attitude, Ford, relative ranking on a scale of 1–100 percent (winter/summer score)	69/68	71/80	85/83
Overall dealer attitude, Lincoln Mercury, relative ranking on a scale of 1–100 percent (winter/summer score)	66/64	66/71	71/62
Ford Motor Company Fund contributions, $ million	33	20	19
Corporate contributions, $ million	16	9	10

Volunteer corps, thousand volunteer hours	100	100	112
Lost-time case rate (per 100 employees)	0.7	0.6	0.5
Lost-time case rate by region (per 100 employees)			
Americas	1.0	0.9	0.8
Asia Pacific and Africa	0.1	0.2	0.1
Europe	0.6	0.5	0.3
U.S. safety recalls, number per calendar year (including legacy vehicles on the road for 10+ years)	10	8	7
U.S. units recalled, number of million units (including legacy vehicles on the road for 10+ years)	1.6	4.53[1]	0.6
IIHS Top Safety Picks, number of vehicles	NA[2]	NA[2]	11

1. All but 12,000 of the 4.53 million vehicles recalled were older models (1992–2003) that were equipped with faulty Texas Instruments speed control deactivation switches. Although the data show the majority of the vehicles equipped with these switches do not pose a significant safety risk, we recalled them to reassure customers and eliminate any future concerns.
2. The IIHS has significantly changed its ratings system, such that data for 2010 are not comparable to data for previous years. Ford continues to be a leader in Top Safety Picks.

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Ford's Goals, Commitments and Status

This table summarizes Ford's goals, commitments, targets and progress in our material issue areas and other important performance areas.

KEY ON TRACK IN PROCESS NOT ON TRACK

Sustaining Ford | Climate Change | Water | Supply Chain | Vehicle Safety

Sustaining Ford

Goal/Commitment	2010 Progress	On Track?
Execute our "ONE Ford" transformational plan to create a leaner, more-efficient global enterprise.	Continued to strengthen our balance sheet, reducing our Automotive debt by $14.5 billion. This included the full $7 billion prepayment of our debt obligations for the UAW's independent health care trust.	ON TRACK
Achieve profitability in 2011.	Full-year 2010 net income was our highest in more than a decade. We achieved positive Automotive gross cash net of debt earlier than we anticipated. Our 2010 financial results exceeded our expectations.	ON TRACK
Align capacity to demand.	Continued to globalize vehicle platforms that can be adapted to meet specific regional needs and to produce the vehicles that customers want. Retooled facilities that previously built large trucks and SUVs to instead manufacture smaller, more energy-efficient vehicles. Ended production of Mercury vehicles.	ON TRACK
Reverse the trend of losing money on small car production in the U.S.	Boosted production of smaller-sized vehicles in North America and globally. Improving costs to competitive levels. Enhancing revenues through class-leading fuel economy, safety performance and quality.	IN PROCESS
Develop partnerships and projects to explore solutions to urban and rural mobility challenges.	Began looking at new mobility options through an "ecosystem" lens that puts vehicles in a broader transportation context. Developed a new project called SUMURR (Sustainable Urban Mobility with Uncompromised Rural Reach), with a pilot in Chennai, India.	ON TRACK

Climate Change

Goal/Commitment	2010 Progress	On Track?
Products		
Do our share to stabilize carbon dioxide (CO_2) concentrations in the atmosphere at 450 ppm, the level generally accepted to avoid the most serious effects of climate change.	• Expanded the climate stabilization analysis that we had undertaken previously for the U.S. and Europe to the other regions in which we operate. This analysis defines the emission reductions needed to meet our stabilization commitment. • Further developed our electrification strategy and launched our first electric vehicle. • Reduced fleet-average CO_2 emissions from our 2010 model year U.S. and European new vehicles by 10.5 percent and 8.1 percent, respectively, compared to the 2006 model year.† • Announced three more engines with our patented EcoBoost™ fuel-saving technology. By 2013, we expect to be producing approximately 1.5 million EcoBoost engines globally, about 200,000 more than originally expected. • Offered four models in North America that provide 40 miles per gallon or better – compared to 2009, when our most fuel-efficient vehicle achieved 35 miles per gallon. • Offered 18 models in Europe that achieve a CO_2 emission level of 130 grams per kilometer, and two that achieve less than 100 grams per kilometer.	ON TRACK
Ensure that every all-new or redesigned vehicle we introduce will be best in class or among the best in class for fuel economy in its segment.	Followed through on this commitment with vehicles introduced in all our regions, and we will continue to do so in future product launches.	ON TRACK
Manufacturing		
Continuously improve energy efficiency; 2010 and 2011 goals are a 3 percent improvement.	Met commitment to improve facility energy-efficiency emissions by 3 percent in 2010 vs. 2009: improved global energy efficiency by 5.6 percent. Improved energy efficiency in North America by 14.4 percent compared to 2006 baseline.	ON TRACK
Reduce global facility CO_2 emissions per vehicle by 30 percent by 2025.	New target. Reduced 2010 CO_2 emissions by 5.6 percent per vehicle compared to 2009.	ON TRACK

EU Emission Trading Scheme: Ensure compliance with Trading Scheme requirements, including third-party verification.	Continued to comply with the Trading Scheme requirements.	
Chicago Climate Exchange: Reduce Ford's North American facility CO_2 emissions by 6 percent between 2000 and 2010 as verified by third-party auditors.	Achieved this goal.	
Alliance of Automotive Manufacturers: Reduce industry-wide U.S. facility GHG emissions by 10 percent per vehicle produced between 2002 and 2012.	On track to meet this commitment.	
Voluntarily report GHG emissions.	Continued to voluntarily report facility CO_2 emissions to national emissions registries or other authorities in Australia, Brazil, Canada, China, Mexico, the Philippines and the U.S.	
Supply Chain		
Better understand the carbon footprint of Ford's supply chain to inform the development of a broad-based carbon management approach for our supply chain.	■ Surveyed 35 suppliers regarding greenhouse gas emissions and achieved a 75 percent voluntary response rate via participation in the CDP Supply Chain Program and "road testing" of the WRI GHG Protocol Scope 3 Accounting and Reporting Standard. ■ Through the AIAG, helped to establish common industry guidance and a reporting format for greenhouse gas emissions, to be used by global automakers and Tier 1 suppliers.	

† Please see Sue Cischke's letter for a discussion of our CO_2-reduction goal for North America and Europe.

Water

Goal/Commitment	2010 Progress	On Track?
In 2000, set target of 3 percent year-over-year water use reductions; aiming for global water reduction of 5 percent per vehicle for 2011, compared to 2010.	Decreased water use per vehicle by 49 percent from 2000 to 2010.	
Develop new water approach.	In 2010, set up new team to review water issues in a more holistic way. Became a founding responder to Water Disclosure, a Carbon Disclosure Project initiative.	

Supply Chain

Goal/Commitment	2010 Progress	On Track?
Overall goal: Leverage Ford's complex, global supply chain to make a positive impact in the markets in which we do business.	■ Continued to expand our three-pronged approach to engaging with suppliers on sustainability issues, through our work with individual supplier factories, with key suppliers' corporate management, and in cooperation with other automakers to influence practices across the automotive supply chain. ■ As part of this approach, held supplier trainings on working conditions and related sustainability issues and assessed more than 750 suppliers in 17 priority countries.	
Collaborate with key production suppliers to align policies and practices to protect working conditions and responsible environmental management.	Twenty percent of our strategic suppliers have met all three Ford milestones: they have codes of conduct in place that are aligned with international standards and supported by robust management systems governing their own operations ***and*** their supply chain.	
Facilitate development of an industry-wide approach to ensuring sound working conditions and respect for human rights in the supply chain.	■ In 2010, launched jointly sponsored training with other automakers through the AIAG in Turkey and Brazil; trained 463 suppliers. ■ Through this training and subsequent cascading process in these two countries, have impacted more than 83,300 workers and 29,600 Tier 2 suppliers. ■ Since program inception across all countries trained, the total now exceeds 1,650 Ford suppliers trained, with more than 318, 500 workers and 56,250 Tier 2 suppliers impacted. ■ With the AIAG, launched online training on supply chain working conditions and responsible procurement targeted at purchasing or supply chain managers. ■ Initiated a new work group at the AIAG focused on supply chain transparency issues such as those relating to conflict minerals.	

Vehicle Safety and Driver-Assist Technologies

Goal/Commitment	2010 Progress	On Track?
Design and manufacture vehicles that achieve high levels of vehicle safety for a wide range of people over the broad spectrum of real-world conditions.	■ Remained an industry leader in vehicle safety. In fact, have earned more five-star crash-test ratings than any other manufacturer in 30 years of NHTSA testing. ■ Nearly all vehicles available with side air bags (the Safety Canopy®). ■ Made electronic stability control or Roll Stability Control™ standard on 84 percent of our 2011 model year North American nameplates; for the 2012 model year, 100 percent of North American nameplates will come standard with one of these technologies. ■ Introduced the world-first automotive inflatable rear safety belts on the new 2011 Ford Explorer in North America. ■ Used more advanced and ultra-high-strength steels than ever as	

	part of our continuing effort to enhance the safety and fuel efficiency of our vehicles.	
Meet or exceed all regulatory requirements for safety.	Continue to meet this goal every year. Ford's internal Safety Design Guidelines and Public Domain Guidelines go beyond stringent regulatory requirements.	
Provide information, educational programs and advanced technologies to assist in promoting safe driving practices.	Invested an additional $1 million to expand the Ford Driving Skills for Life (FDSFL) program in the U.S. from 9 to 15 states. In the FDSFL program, included modules on avoiding distracted driving. Offered MyKey®, allowing parents to program a key for their teenagers that limits certain features, such as top speed and audio volume. Unveiled Curve Control, a technology that senses – and responds – when the driver takes a curve too quickly.	
Play a leadership role in accident research.	Launched research aimed to create one of the world's first digital human body models of a child. The model could someday serve as a digital "dummy" for computer crash testing. In Europe, joined with 29 partner organizations to take part in "interactIVe," a research project that seeks to support the development and implementation of active safety systems. Maintained major research alliances with the Massachusetts Institute of Technology, the University of Michigan, Northwestern University and more than 100 universities worldwide; safety is a central thrust of this work.	
Play a leadership role in research and development relating to "intelligent" vehicles.	Doubled our investment in intelligent vehicles, formed a new 20-member task force of scientists and engineers to explore the technology's broader possibilities, and will become the first automaker to build prototype vehicles for demonstrations across the U.S. Took part in collaborative research in the U.S. (via the Crash Avoidance Metrics Partnership) and Europe (via the "simTD" and DRIVE2X projects) to test intelligent vehicle technologies.	

Other Important Issues

Environment (Non-Climate and Non-Water) | Workplace Health and Safety | Quality

Environment (Non-Climate and Non-Water)

Goal/Commitment	2010 Progress	On Track?
Products		
Expand use of the Product Sustainability Index (PSI) and Design for Sustainability principles in product development.	▪ Ford Fiesta, introduced in North America in 2011, designed using PSI. ▪ 2012 Ford Focus, to be introduced in North America in 2011, designed using PSI.	
Increase the use of recycled, renewable and lightweight materials.	▪ Expanded use of soy foam seating; from 2011 on, all vehicles produced in North America have soy foam seating. ▪ Introduced soy foam headliner. ▪ Introduced wheat-straw-reinforced plastics. ▪ Expanded use of recycled-content fabrics for seats and headliners. ▪ Continued to develop strategy requiring recycled plastics and textile materials for many applications in North America.	
Increase the use of and certification for allergen-free and air-quality-friendly interior materials.	Established global design guidelines for allergy-free materials and in-vehicle air filtration that are being migrated across product lines.	
Reduce the use of substances of concern.	As of 2009, all Ford, Lincoln and Mercury vehicles in the U.S. are mercury-free with the exception of the Lincoln Town Car, which uses mercury in its high-intensity discharge headlamps. Have eliminated the use of lead wheel weights in North America and Europe.	
Manufacturing		
Reduce water use.	(See Water section of Goals Table.)	
Reduce CO_2 emissions.	(See Climate Change section of Goals Table.)	
Reduce landfill disposal, with 2010 and 2011 targets of 10 percent reduction per vehicle per year.	Reduced landfill disposal in 2010 by 12.4 percent per vehicle compared to 2009.	
In 2010, maintain VOC emissions from painting at North American Assembly plants at 24 grams/square meter or less. In 2011, maintain VOC emissions from painting at North American Assembly plants at 23 grams/square meter or less.	2010 VOC emissions at North American Assembly plants were 21.6 grams/square meter.	

Workplace Health and Safety

Goal/Commitment	2010 Progress	On Track?
Safety		
Fatalities target is always zero.	Experienced one employee fatality and two contractor fatalities during 2010.	

Serious injuries target is zero; objective was to be competitive with industry by 2010.	Reduced total from 128 to 108. Failed to reach aggressive 50 percent reduction target. Have active interventions in place in all regions.	
Overall goal is to obtain competitive DART levels and drive continuous improvement; specific targets are set by business units yearly for five years into the future.	Continued the strong continuous improvement trend on overall injury rates in 2010.	
Health		
Improve focus on employee personal health through access to health risk appraisal and health promotion programs.	Have active personal health promotion programs in place in most regions. Deployed common global metrics and developed plans to implement in remaining countries. Employee participation on health-risk appraisals now included as a core component of U.S. health benefit programs.	

Quality

Goal/Commitment	2010 Progress	On Track?
Become global quality leader; strive to be best in class in every phase of vehicle development, from design to pre-delivery.	Continued to improve Ford quality in 2010. In the U.S., Ford tied with Honda for the fewest number of "things gone wrong" (TGW) after three months in service among all full-line automakers. Ford also reduced TGW in Europe, Asia Pacific and Africa, and South America.‡	
Launch new small global cars with the industry's best quality ever, at fewer than 800 TGW per 1,000 vehicles in the first 90 days of ownership. Continue to improve initial quality and long-term durability by reducing TGW and warranty costs in every vehicle program.	■ Owners of Ford, Lincoln and Mercury vehicles reported 1,140 TGW per 1,000 vehicles, a 6 percent improvement over 2009 and the 6th consecutive year of improvement ■ Over the last three years, reduced our warranty repair rate by 40 percent in each region around the world. Global warranty spending per unit declined 13 percent in 2010, compared to 2009.	
Continue to improve customer satisfaction with our vehicles and sales and service divisions.	Improved overall customer satisfaction at three months in service. Improved sales satisfaction in both the U.S. and Europe. Service satisfaction remained the same in the U.S. and improved in Europe.	

‡ "Things gone wrong" is measured as part of the Global Quality Research Survey (GQRS), which is conducted quarterly for Ford by the RDA Group, a market research and consulting firm.

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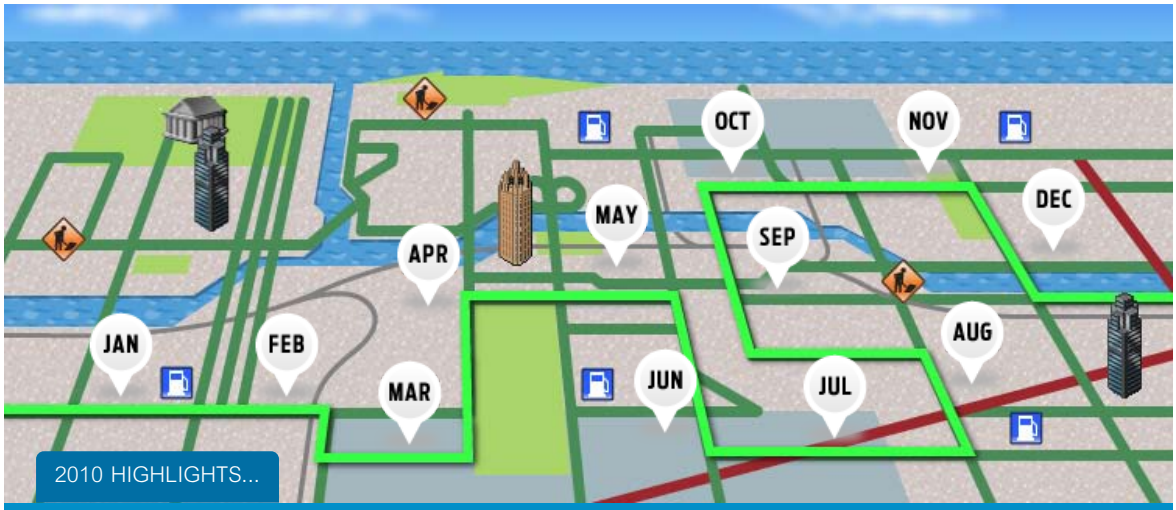
Map of Our Year



View Our Sustainability Journey

Click on the white icons to see Ford's sustainability-related highlights for 2010 – from auto show awards in January to delivery of the first Transit Connect Electric in December.

JANUARY

Auto Show Awards

Achieved an historic sweep of the North American Car of the Year and North American Truck of the Year honors (for the Ford Fusion Hybrid and Ford Transit Connect, respectively) at Detroit's North American International Auto Show.

Consumer Electronics

Ford President and CEO Alan Mulally delivered the opening keynote address at the 2010 Consumer Electronics Show in Las Vegas.

Product Milestone

The Ford Fiesta, Europe's No.2 best-selling car, set record at Ford's Niehl Plant in Cologne, Germany. No other Ford vehicle manufactured in Cologne has ever reached the half million production mark within only 17 months of production.

Product News

The next-generation Ford Focus made its worldwide debut at Detroit's North American International Auto Show.

FEBRUARY

Innovation Award

Named to *Fast Company's* list of "Top 10 Most Innovative" companies in mobile technology.

Product Announcement

Announced that the Transit Connect Electric – the first product in Ford's accelerated electrified vehicle plan – would be in production by the end of 2010.

Sales Performance

Changan Ford Sales Company reported January sales of 30,759 Ford brand passenger vehicles in China, a 128 percent increase compared to the same period last year, marking its twelfth consecutive month of year-on-year growth.

Manufacturing News

As part of a $500 million investment in India, Ford's new engine plant in Chennai began production.

MARCH

Volvo Announcement

Announced definitive agreement to sell Volvo operations to Zhejiang Geely Holding Group Company Limited.

Sales Performance

Achieved higher sales throughout Ford's lineup. Cars were up 53 percent versus a year ago, utilities were up 46 percent, and trucks were up 30 percent. Among brands, Ford sales were up 46 percent, Lincoln sales were up 19 percent, and Mercury sales were up 26 percent.

Electrifying News

Ford's global electrification strategy was set to deliver a suite of five new electrified vehicles in North America and Europe by 2013 and built on the Company's overall vision of offering the widest possible range of fuel-efficient, low-emission technological solutions. Ford committed to working with technology leaders, the energy industry

Product Announcement

The all-new Ford-engineered and Ford-built 6.7-liter Power Stroke® V8 turbocharged diesel engine available in the 2011 Ford F-Series Super Duty® was B20 biodiesel compatible. This increased biodiesel compatibility gave customers more fueling choices.

and government to prepare consumers for a future with electric vehicles.

APRIL

New Engines

Announced the addition of three new EcoBoost engines – a 2.0 liter, which will be available in the U.S., Europe, and Asia; a 1.6 liter, which will be available initially in Europe and in the U.S. in 2013; and a 1.0 liter, which will be available in Europe initially.

Vehicle Quality

Earned the highest customer satisfaction with vehicle quality of all major manufacturers, according to Global Quality Research System.

Excellence in Reporting

Named a finalist in the Ceres/Association of Chartered Certified Accountants North America Awards for Sustainability Reporting, for our 2008-9 Sustainability Report. Ultimately earned 2nd place.

Financial Performance

Posted strong first-quarter results: first-quarter net income of $2.1 billion, or 50 cents per share, a $3.5 billion improvement from first-quarter 2009. Pre-tax operating profit of $2 billion, or 46 cents per share, a $4 billion improvement from first-quarter 2009. Largest first-quarter market share gain since 1977.

MAY

40 mpg Fiesta

Achieved an EPA highway rating of 40 mpg for the Ford Fiesta.

Training in Turkey

In partnership with the Automotive Industry Action Group (AIAG), conducted a training of Turkish suppliers on working conditions and other sustainability issues.

Vehicle Quality Award

Ford won AutoPacific's 14th Annual Vehicle Satisfaction Awards, with nearly double the number of vehicles on the list than other auto manufacturers.

Disaster Relief

Ford Motor Company Fund announced donation of $50,000 to Hands On Nashville in support of its disaster relief efforts and other community outreach activities.

JUNE

Product Innovations

Announced that the new Ford Explorer will have soy foam seats and industry-first inflatable rear safety belts.

Business Award

Won "Business Turnaround of the Year" from the American Business Awards.

Mercury Announcement

Announced the end of the Mercury brand to focus on our core Ford and Lincoln brands.

Allergy-Friendly Interior

Since the first certification in 2004 – the Ford C-MAX awarded the "Allergy Tested Interior" seal of approval by TÜV Rheinland (Germany) – a total of 4.2 million Ford cars with the TÜV seal of approval have been sold across Europe.

JULY

Explorer Fuel Economy

Revealed that the all-new Ford Explorer with a 2.0 liter EcoBoost™ will have up to 30% fuel economy improvement over the previous model.

Supplier Survey

Concluded a pilot survey of suppliers regarding greenhouse gas emissions to better understand the carbon footprint of our supply chain.

MKZ Hybrid

Announced that the 2011 Lincoln MKZ Hybrid will have best-in-class fuel economy and the same price as the standard MKZ.

Paying Our Bills

Retired $7 billion of debt, resulting in annualized interest payment savings of $470 million.

AUGUST

Fiesta Safety Honor

Earned a Top Safety Pick from the Insurance Institute for Highway Safety for the 2011 Ford Fiesta – the first subcompact car in the industry to earn this honor.

Sale of Volvo

Completed the sale of Volvo.

Record Sales

Total sales of the Ford Edge, which arrived in late 2006, hit 400,000 in August – more than any midsize crossover vehicle during the same period.

Product Innovation

The all-new Ford Explorer was more than just the new fuel economy class leader in the midsize SUV segment, it also set a new benchmark for sustainability in the SUV segment due to an increased use of renewable and recycled content, such as parts made from steel left over from F-150 production.

SEPTEMBER

Employee Volunteers

Announced that more than 12,000 Ford employees in 41 countries contributed more than 46,000 hours of volunteer work in support of 2010 Global Week of Caring.

Training in Brazil

In partnership with the AIAG, trained suppliers in Brazil on working conditions and other sustainability issues.

GHG Reporting

Supported the AIAG's release of common industry guidance and a common industry reporting format for greenhouse gas emissions.

Global Growth

Announced plans to build second engine plant in Chongqing China, as part of its Asia Pacific region expansion strategy.

OCTOBER

Debt Reduction

Announced a debt reduction of $2 billion. Paid Voluntary Employee Beneficiary Association (VEBA) debt of $3.6 billion.

Ford Ranger Debut

Debuted the all-new global Ford Ranger at the Australian International Motor Show.

"Green" Honor

For the second consecutive year, included among *Newsweek's* Top 100 Green Companies.

Test Drive Charity

Introduced our first-ever global test drive of the all-new Ford Focus on Facebook. Participants, who were chosen based on their submissions to the Ford Focus Facebook page, received up to $10,000 to give to their favorite charity.

NOVEMBER

F-150 Fuel Efficiency

Launched the most fuel-efficient full-size pickup engine of any manufacturer – the 3.7-liter V6 engine in the 2011 Ford F-150.

Training in Romania

Conducted working conditions training with suppliers in Romania.

Electric Vehicles

Named the first markets in which we will sell our first all-electric, zero-CO_2-emissions passenger car.

Community Giving

Provided funding and delivery for Thanksgiving meals to 9,000 people in need in southeast Michigan.

DECEMBER

Ford Transit Connect

Delivered the first 2011 Ford Transit Connect Electric Vehicles to customers.

Flexible Manufacturing

After a $550 million renovation of the Michigan Assembly Plant, began producing the all-new Ford Focus on the Company's most flexible assembly line.

Ford Figo Award

Earned "Indian Car of the Year" award for the Ford Figo from Indian automotive journalists.

Mercury Discontinued

Ended production on the Mercury brand.

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Assurance

For this report and our previous four reports, Ceres convened Stakeholder Committees to advise us. Ceres leads a national coalition of investors, environmental organizations and other public interest groups working with companies to address sustainability challenges. Ford agreed to work with a stakeholder team that was selected for us by Ceres. The Ceres Stakeholder Committee that was selected is an independent group of individuals drawn primarily from the Ceres coalition and representing a range of constituencies that have expertise in environmental, social and governance issues.

In reviewing this report, the Committee considered whether the Company adequately reported on its sustainability performance and key impacts, including goals, targets, systems, data and initiatives. The Committee met once by teleconference to review and comment on the materiality analysis and report plan.

The Committee largely agreed with the positioning of issues on Ford's materiality matrix, and they affirmed the importance of the newly identified top material issues of supply chain and water. In addition, stakeholder committee members requested more information about the materiality analysis methodology and stakeholder inputs used to generate it. They also had some suggestions to change the position of a few issues in the matrix. In response, we have:

- Provided additional detail on how the analysis was conducted and the inputs used to prioritize issues
- Elevated the importance of innovation management so it is considered of moderate importance to Ford and its stakeholders
- Elevated the importance of mobility to the highest-priority level

Moving the issues on the matrix reflects that they are higher priority to stakeholders than our original analysis suggested. Some other suggestions – for example, providing details on how Ford is addressing fuel economy across its range of products – were already included in the report. Others, such as reorganizing issues and sub-issues, will be considered for future reports.

The Committee also made suggestions based on its review of previous reports and the outline for this report. Major points of feedback and Ford's responses are shown below.[1]

Recommendation	Response
Provide increased disclosure about the Company's industry collaborations and its policy stances on issues such as human rights, in the context of ensuring policy alignment between the Company's public policy, products and strategy.	We have expanded the public policy section of the report to cover some additional issues. The new section on raw materials sustainability discusses Ford's collaborations and policy engagement around conflict minerals.
Detail both short- and long-term goals and provide increased performance disclosure in areas such as diversity (board and employee level) and human rights/supply chain as well as more discussion of challenges.	Ford has complemented its near-term energy-efficiency targets with a long-term goal to reduce CO_2 emissions per vehicle built by 30 percent by 2025, compared to 2010. We will review the presentation of our goals and targets for future reports.
Reassert the importance of mobility in the materiality matrix and corresponding report content, and provide more detail regarding Company innovations and actions in this area.	The mobility issue was repositioned as a result of the feedback. We have refocused our reporting on innovative new initiatives in urban and rural mobility.
Expand discussion of supply chain management, including how Ford engages with suppliers, builds capacity within the supply chain and encourages suppliers to improve performance. Provide more detail around goals and targets in this area.	This year for the first time, we have developed a stand-alone section on sustainable supply chain management. It details Ford's work to build capacity in the automotive supply chain around human rights and environmental sustainability issues. Also, responding to the previous round of stakeholder input, there is extensive new information on raw materials sustainability, including Ford's response to conflict minerals challenges.
Conduct scenarios allowing consideration of how Ford would be impacted if actual levels of carbon in the atmosphere go much higher than initially projected, and take a leadership position on issues such as vehicle efficiency and consumer education. Develop updated vehicle-efficiency targets in addition to the broad stabilization goal.	For this report, we have added a detailed discussion of Ford's science-based climate stabilization goal, including how it might be adjusted in light of changing external factors. We provide very detailed discussion of how we are implementing changes across our global vehicle portfolio to cut CO_2 emissions. In the Supply

Discuss the benefits and challenges of supplier engagement around Scope 3 greenhouse gas emissions.	Chain section, we have added a discussion of our participation in pilot supply chain greenhouse gas footprint efforts and what we have learned from them.
Disclose how Ford is assessing its water risk locally and globally – both within the Company's owned and operated, as well as its supplier, facilities – and how it is collaborating with others.	This report includes a new material issue section on water, which summarizes our updated water strategy and approach to managing risks and opportunities related to water availability and quality.

Other Committee recommendations will be considered for future reporting.

Data Assurance

Some of the data in our reports have been subject to various forms of internal and third-party verification, as follows.

- Financial data were audited for disclosure in the Ford Annual Report on Form 10-K.
- More than two-thirds of Ford's global facility greenhouse gas (GHG) emissions are third-party verified. All of Ford's North American GHG emissions data since 1998 have been externally verified by FINRA, the auditors of the NASDAQ stock exchange, as part of membership in the Chicago Climate Exchange. In addition, all emissions data covered by the EU Emission Trading Scheme (EU-ETS) and voluntary UK Climate Change Agreements are third-party verified. All EU-ETS verification statements are provided to Ford by facility from BSI for UK facilities, Lloyds for Spain and the Flemish Verification Office for Belgium. North American facilities are verified against the World Resources Institute's GHG Protocol. European facilities are verified against the EU-ETS rules and guidelines.
- Ford voluntarily reports facility CO_2 emissions to national emissions registries or other authorities in Australia, Brazil, Canada, China, Mexico, the Philippines and the U.S.
- Various environmental data are reported to regulatory authorities.
- Ford's facility environmental data are managed using the Global Emissions Manager database, which provides a globally consistent approach to measurement and monitoring.

The kind of assurance used for each data set is noted in the data charts.

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1. This summary draws from summaries of the stakeholder engagement process to capture priority feedback; however, it does not cover every point raised and was not reviewed by the participating stakeholders.

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Browse this section to learn more about our business, our locations and the impacts of our operations.

IN THIS SECTION

Products and Services

Find out more about the Company's core brands – Ford and Lincoln. The Company provides financial services through Ford Motor Credit Company.

READ MORE

Manufacturing

We produce our products in facilities operated by Ford Motor Company and/or joint ventures. See our operations map for manufacturing plants by geographic location and plant type.

READ MORE

Our Value Chain and Its Impacts

We have analyzed the most significant sustainability issues we face and the impacts they have at the various stages of our value chain. Some issues do not pertain to a particular lifecycle stage; a number of others apply across the whole value chain.

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Products and Services

We market our vehicles under the Company's core brands, Ford and Lincoln. The Company provides financial services through Ford Motor Credit Company. Quality Care, Motorcraft, Quick Lane and Extended Service Plan provide customer service support to our dealers. For more information regarding Ford's products, please visit www.ford.com.

IN THIS SECTION

Global Products

Ford offers exciting vehicles in all regions of the world.

READ MORE

Automotive Brands

Financial Services

Customer Services

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Global Products

Ford offers exciting vehicles in all regions of the world.
Use this interactive map to explore our global product portfolio.

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Automotive Brands

Dealers[1]	10,719
Customer assistance:	+1 800 392 3673 Ford.com FordOwner.com

Dealers[1]	284
Customer assistance:	+1 800 521 4140 Lincoln.com LincolnOwner.com

1. Worldwide dealerships, as of December 31, 2010.

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Financial Services

FordCredit

Operations	• A leading automotive financial services company founded in 1959 • Provides a wide variety of dealer and customer financing products and services globally in support of Ford Motor Company vehicle sales
Customer assistance:	• +1 800 727 7000 • fordcredit.com

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Customer Services

Service | Quick Lane Tire & Auto Center | Parts | Accessories | Extended Service Plan

Ford Service / Lincoln Service

Operations	A total service experience for Ford and Lincoln owners available only at Ford and Lincoln dealerships – designed to deliver customer satisfaction and repeat purchase intent: • Parts engineered to Ford Motor Company specifications • Technicians trained and certified specifically on Ford and Lincoln vehicles • One-stop service for all mechanical and maintenance needs
Customer assistance:	Locate Ford & Lincoln Dealer Service at: • FordOwner.com • LincolnOwner.com Order Genuine Ford parts at: FordParts.com

Quick Lane Tire & Auto Center

Operations	Ford Motor Company's all-makes quick service brand successfully occupies a unique niche in the marketplace by offering customers "convenience with confidence." Convenience comes in the form of all-makes-all-models service capabilities, no-appointment-necessary service while you wait, evening and weekend hours, and competitive prices. Confidence comes in the form of factory-trained technicians and quality Motorcraft parts.
Customer assistance:	Locate Quick Lane Tire & Auto Centers at: Quicklane.com

Ford Parts / Motorcraft

Operations	New and remanufactured parts recommended by Ford Motor Company and available in Ford and Lincoln franchised dealerships, Ford authorized distributors and thousands of major retail and repair locations.
Customer assistance:	Order Genuine Ford and Motorcraft parts at: FordParts.com

Custom Accessories

Operations	Wide variety of custom accessories are available, all designed to personalize Ford and Lincoln vehicles.
Customer assistance:	Genuine Ford Accessories at: • fordaccessories.com • lincolnaccessories.com

Operations	**Extended Service Business** Providing comprehensive vehicle service contract and maintenance programs. **Ford Extended Service Plan (ESP)** Major customers include Ford and Lincoln vehicle dealers, commercial customers and fleets of Ford Motor Company vehicles.
Customer assistance:	**ESP** - +1 800 521 4144 - ford-esp.com

OUR OPERATIONS

- Products and Services
- Manufacturing
- Our Value Chain and Its Impacts

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Manufacturing

Visit our website to view detailed information about our manufacturing operations around the world.

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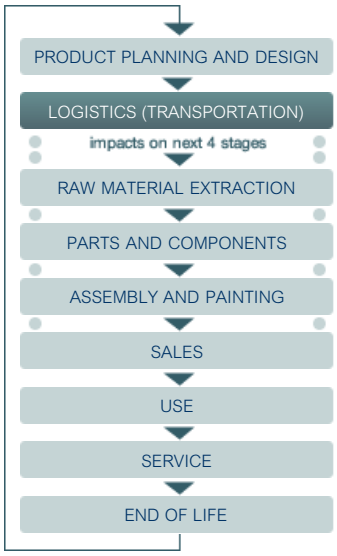
Our Value Chain and Its Impacts

As a major multinational enterprise, our activities have far-reaching impacts on environmental, social and economic systems. The diagram below organizes the issues by the major stages of our value chain. In this report you will also find a "materiality analysis" which prioritizes the most significant issues in our value chain.

Some issues are not shown in this diagram because they do not pertain to a particular lifecycle stage.

Related Links

This Report:
- Materiality Analysis



Value Chain: Overview

A number of broad sustainability challenges set the context for all of the lifecycle stages. These issues apply across the value chain:

- Population growth
- Urbanization
- Poverty
- Education
- Gender equality
- Child mortality
- Maternal health
- Infectious diseases
- Biodiversity
- Loss of ecosystem services
- Downsizing

Click the buttons to the left to see issues for each stage

Product Planning and Design

back to Overview

Principal actors in this stage

- Ford
- Customers
- Government

Environmental issues

- Greenhouse gas emissions
- Fuel economy
- Smog-forming emissions
- Material use and recycling
- Resource use
- Manufacturing waste
- In-vehicle air quality

Social issues

- Vehicle safety
- Access to mobility
- Traffic congestion
- Diversity
- Infrastructure
- Emerging markets
- Design for assembly/ergonomics

Economic issues

- Quality
- Brand value/reputation
- Health care costs

Logistics (Transportation)

back to Overview

Principal actors in this stage

- Ford
- Government

Environmental issues

- Greenhouse gas emissions
- Smog-forming emissions
- Land use

Social issues

- Vehicle safety
- Health and safety
- Treatment of employees
- Noise
- Community disruption through land use
- Traffic congestion
- Diversity
- Infrastructure

Economic issues

- Fuel cost

Raw Material Extraction

back to Overview

Principal actors in this stage

- Suppliers
- Government

Environmental issues

- Greenhouse gas emissions
- Smog-forming emissions
- Resource use
- Waste
- Land use
- Biodiversity impacts

Social issues

- Health and safety
- Diversity
- Human rights
- HIV/AIDS
- Community disruption through land use

Economic issues

- Commodity prices

Parts and Components

back to Overview

Principal actors in this stage

- Ford
- Suppliers

Environmental issues

- Greenhouse gas emissions
- Smog-forming emissions
- Material use and recycling
- Resource use
- Manufacturing waste
- Land use

Social issues

- Health and safety
- Employee satisfaction
- Diversity
- Human rights
- HIV/AIDS

Economic issues

- Quality
- Brand value/reputation
- Health care costs

Assembly and Painting

back to Overview

Principal actors in this stage

- Ford
- Government

Environmental issues

- Greenhouse gas emissions
- Smog-forming emissions (especially VOCs)
- Material use and recycling
- Resource use
- Manufacturing waste
- Land use

Social issues

- Health and safety
- Employee satisfaction
- Diversity
- Human rights
- HIV/AIDS
- Community contributions

Economic issues

- Quality
- Brand value/reputation
- Health care costs

Sales

back to Overview

Principal actors in this stage

- Ford dealers
- Other dealers

Environmental issues

- Land use

Social issues

- Diversity
- Human rights
- Marketing and customer information

Economic issues

- Dealer services
- Brand value/reputation
- Purchase cost

Use

back to Overview

Principal actors in this stage

- Customers
- Fuel providers
- Government

Environmental issues

- Greenhouse gas emissions
- Smog-forming emissions
- Land use

- Fuel economy
- In-vehicle air quality

Social issues

- Vehicle safety
- Noise
- Viability of public transport
- Access to mobility
- Community disruption through land use
- Traffic congestion
- Infrastructure
- Emerging markets

Economic issues

- Fuel costs
- Brand value/reputation
- Cost of ownership

Service

back to Overview

Principal actors in this stage

- Ford dealers
- Independent servicers

Environmental issues

- Material use and recycling
- Waste

Social issues

- Health and safety
- Diversity
- Human rights
- Marketing and customer information

Economic issues

- Quality
- Dealer services
- Brand value/reputation

End of Life

back to Overview

Principal actors in this stage

- Dismantlers
- Government
- Shredder operators
- Post-shredder treatment operators

Environmental issues

- Material use and recycling
- Waste
- Recovery

Social issues

- Health and safety
- Diversity
- Human rights
- End of life information

Economic issues

- Commodity prices
- Quality
- Market demand for recycling/recovery products

Expanding Connections

We recognize that these issues are interconnected at each stage and that positive and negative effects in one part of the chain can reverberate in the other parts.

Increasingly, we are bringing our understanding of a wide range of sustainability issues into the stages of our value chain. Environmentally, we are improving our manufacturing efficiency, cutting the emissions of our vehicles, designing vehicles with end of life in mind and increasing the recyclability of our vehicles and our use of recycled materials. Socially, we seek to strengthen the communities we're part of, expand the connections within them and improve our relationships throughout the value chain. Economically, we are trying to build our capacity to adapt and respond to the variety of challenges and opportunities present at every stage, meeting our customers' needs as well as our stakeholders' expectations.

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Material Issues

In this section, we discuss our most important sustainability issues and how they were identified. We also present perspectives on key issues from external and internal experts.

Materiality Analysis

Ford uses a rigorous materiality analysis to prioritize key sustainability issues.

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Climate Change

We have a comprehensive climate change strategy to cut greenhouse gas emissions from our products and operations.

READ MORE

Water

We recently refined our corporate water strategy.

READ MORE

Supply Chain

Our aim is to leverage our supply chain – and our industry – to make a positive impact in the markets in which we do business.

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Vehicle Safety and Driver-Assist Technologies

Safety is one of four principles that guide our every design and engineering effort.

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Sustaining Ford

Sustainability is at the heart of our business.

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Perspectives on Sustainability

Experts from Ford and other institutions offer their perspectives on our key sustainability issues.

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Materiality Analysis

For its 2010/11 Sustainability Report, Ford conducted an update of its materiality analysis, adding key inputs, replacing outdated inputs and gathering feedback from internal experts. In addition, a Ceres Stakeholder Committee reviewed the analysis and provided comments.

Not surprisingly, in the two years since our last analysis, some new issues emerged, some dropped out and others were recast or reorganized.

In general, there was less concern about Ford's financial viability among non-Company stakeholders, likely reflecting Ford's improved financial performance. Water emerged as a material issue – in particular, the need for a water strategy that varies by risk and region. Supply chain issues also rose in importance for Ford and other stakeholders, including issues related to the sustainability of raw materials and the environmental and human rights performance of suppliers. These topics are now at the highest level of importance under the new issue category of "supply chain sustainability."

In addition to these major trends, changes to the most material issues (upper right part of the materiality matrix) included the following:

- Financial issues were reorganized into two primary categories: Ford's financial health and Ford's future competitiveness. Some issues that were formerly in the upper-right segment – including health care legacy costs, labor costs and access to capital – declined in importance, likely because of actions Ford has taken to manage them. As a result, many financial issues were reorganized into a more general "costs and risks" category. This category and "product competitiveness" issues remained at the highest level of importance for Ford and stakeholders. Labor costs, access to capital, the threat of competitor bankruptcy and dealer and supplier viability – new issues that were added in the last analysis – were less important than in the last analysis.
- Mobility issues – including urban mobility, mega-cities and urban-to-rural migration – were included under the category of "Ford's future competitiveness," as they present challenges for traditional models of personal mobility and opportunities to develop new products and services. Also in the future competitiveness category are emerging markets products and services strategy, an issue of increasing importance as Ford continues to grow globally.
- Ford's climate change strategy remains of the highest importance to the Company and stakeholders alike, but the issues comprising the grouping have shifted. For example, as anticipated global carbon markets failed to emerge, emissions trading/cost of carbon decreased in importance to Ford and its stakeholders. Climate change policy remains of high concern.

Materiality Matrix

Our interactive materiality matrix categorizes issues according to their concern to stakeholders and their current or potential impact on the Company.

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Overview of the Analysis

What Is Materiality?

For the purposes of this report, we consider material information to be that which is of greatest interest to, and which has the potential to affect the perception of, those stakeholders who wish to make informed decisions and judgments about the Company's commitment to environmental, social and economic progress. Thus, materiality as used in this Sustainability Report does not share the meaning of the concept for the purposes of financial reporting.

How Was the Analysis Conducted?

To identify and prioritize material issues, we significantly updated the analysis done for our 2008/9 Sustainability Report using a three-step process.

Identification of Material Business Issues

We developed a list of more than 500 issues, grouped into 15 topics. The issues were identified by reviewing Ford business documents as well as comments from employees, dealers and our major external stakeholders: customers, communities, suppliers, investors and NGOs. For the Ford analysis, the documents included Ford policies, business strategy and performance tracking tools, and the Annual Report on Form 10-K. To represent stakeholder views, we looked at Ford-specific inputs like summaries of stakeholder engagement sessions as well as documents that represent stakeholder views more broadly, such as the Global Reporting Initiative G3 Guidelines, the Ceres Roadmap to Sustainability and reports from socially responsible and mainstream investors.

Prioritization of the Issues

We noted the frequency with which issues were raised in the source documents and rated each issue as low, moderate or high for current or potential impact on the Company in a three- to five-year timeframe, and degree of concern to stakeholders (by stakeholder group). For each issue, the ratings were averaged separately for Ford and stakeholders (with extra weight assigned to investors and multi-stakeholder inputs, as they are key audiences of our reporting). The issues and their ratings were then plotted on a "materiality matrix."

We consider the issues in the upper-right sector to be the most material. None of the issues is unimportant; the position of each in the matrix simply represents our understanding of its relative importance to the Company and its stakeholders.

Review of the Analysis

The draft matrix was reviewed internally. It was then reviewed and revised again based on a meeting of a Ceres stakeholder committee that included representatives of environmental and other NGOs, socially responsible investment organizations and a supplier company.

Use of the Analysis

We have used this analysis to identify issues to cover in our reporting and as an input to our sustainability strategy development. This analysis, and the methods for conducting materiality analyses generally, are works in progress. Sustainability issues are not discrete. Rather, they overlap and interconnect in a complex system that is difficult to capture in a list of issues. Analyzing issues by stakeholder group adds depth to our understanding of who is concerned about which issues and why, but in the process of placing them on a two-dimensional matrix, some of that nuance is lost. Finally, an element of subjectivity is inevitable.

We have participated with other companies and organizations in documenting current methods for materiality analysis with the expectation that this will help advance the practice.

Materiality Matrix

Our interactive materiality matrix categorizes issues according to their concern to stakeholders and their current or potential impact on the Company.

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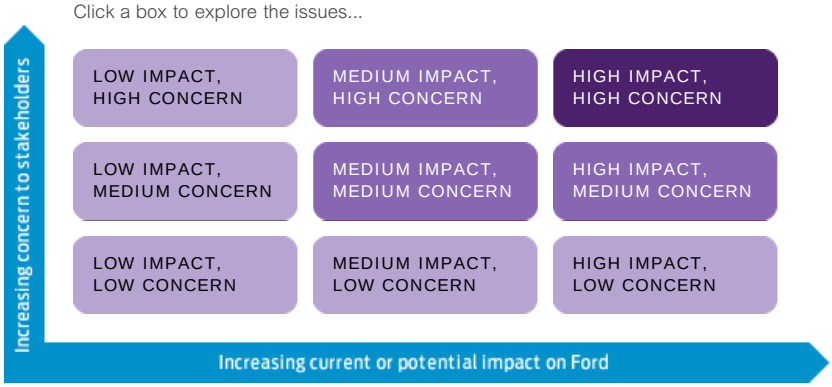
Materiality Matrix

Click a box to explore the issues...



Above is our interactive materiality matrix. In it, issues are categorized according to their concern to stakeholders and their current or potential impact on the Company. Click each box to see which issues are categorized within each sector.

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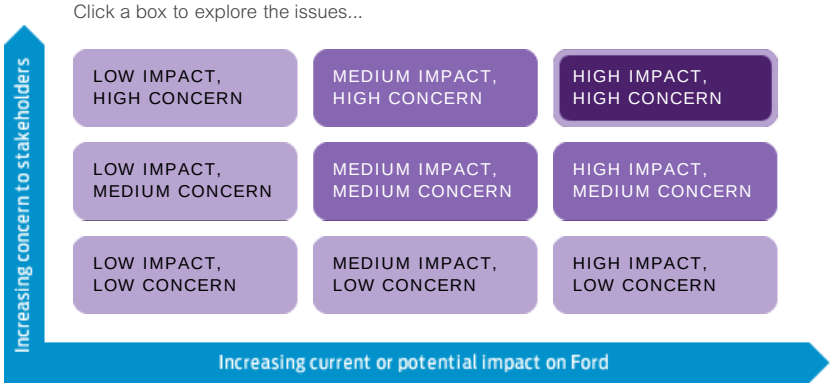
Click a box to explore the issues...



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14 material issues have been identified at this level

Click on an issue below for more details

CLIMATE CHANGE

Low-carbon strategy

Definition/Description	Ford's strategy to reduce carbon emissions from products and operations; goals and targets; use of renewable energy and offsets.
Comments	Strongly related to other material issues; of increasing interest to government and investors.
Trend (from previous analysis)	Already at the highest level
More information	• Climate Change • Our Strategy: Blueprint for Sustainability • Environment • Delivering New Products • Electrification: A Closer Look • Facilities

Vehicle GHG emissions

Definition/Description	Ford's product actions to meet its CO_2 target.
Comments	Increasingly driven by regulatory requirements as well as Ford's voluntary product CO_2 goal; of increasing interest to government and investors.
Trend (from previous analysis)	Already at the highest level
More information	• Climate Change • Vehicle • Environment Progress and Goals • Environment Data: Fuel Economy and CO_2 Emissions

Fuel economy

Definition/Description	Increasingly global issue, but particular focus on Ford's U.S. fleet.
Comments	Increasingly driven by regulatory requirements as well as Ford's voluntary product CO_2 goal; of increasing interest to government and investors.
Trend (from previous analysis)	Already at the highest level
More information	• Environment Progress and Goals • Delivering More Fuel-Efficient Vehicles • Greenhouse Gas Emissions Overview • Climate Change Risks and Opportunities

	• Our Strategy: Blueprint for Sustainability • Improving Fuel Economy • Environment Data: Fuel Economy and CO_2 Emissions

Electrification strategy

Definition/Description	Ford's strategy to deliver electric vehicles to the marketplace and work with partners to address infrastructure and utility interface issues.
Comments	Reflects growing interest in alternatives to fossil fuels and domestic energy and the challenges of transitioning from traditionally fueled vehicles to plug-in vehicles.
Trend (from previous analysis)	Already at the highest level
More information	• Migration to Alternative Fuels and Powertrains • Electrification: A Closer Look • Public Policy Positions: Electrification

PUBLIC POLICY

GHG/fuel economy regulation

Definition/Description	Regulation of vehicle emissions globally, state-by-state regulation in U.S.; increasing stringency and inconsistency of regulation; challenges left by lack of U.S. federal climate legislation.
Comments	With passage of new CAFE requirements in U.S. and new EU requirements in Europe, focus is increasingly on economy-wide policy approaches.
Trend (from previous analysis)	Already at the highest level
More information	• U.S. Climate Change Policy • U.S. Greenhouse Gas and Fuel Economy Regulation • European Climate Change Policy • Climate Change Risks and Opportunities • Emissions Trading Policy • Greenhouse Gas Emissions Overview • Public Policy Positions

WATER

Water strategy

Definition/Description	Includes growing recognition of water as a key sustainability issue, including water scarcity and risks, need for water risk assessments, and understanding of linkages between water and carbon.
Comments	New material issue this year, reflecting higher profile of this issue for Ford and stakeholders.
Trend (from previous analysis)	NEW
More information	• Water • Perspectives on Sustainability: Monica Ellis • Water Use

FORD FINANCIAL HEALTH

Product competitiveness

Definition/Description	Ford's strategy related to products and sales, including product mix, market share, and meeting customer demands, including for more fuel-efficient products.
Comments	A top concern for Ford and stakeholders. Reorganized and renamed since last materiality analysis.
Trend (from previous analysis)	Already at the highest level
More information	• Product Competitiveness • Delivering New Products

Risk and cost management

Definition/Description	Broad concerns about Ford's financial performance, with a focus on costs and cost-related risks.
Comments	A top concern for Ford and stakeholders. Reorganized slightly and renamed since last materiality analysis. Includes health care legacy costs, labor costs, energy security and

	access to capital, formerly top-right issues on their own in the previous analysis.
Trend (from previous analysis)	Already at the highest level, though some of the specific issues have shifted up or down in importance.
More information	• Sustaining Ford • Economy • Health as a Strategic Advantage • Public Policy • Restructuring Our Business • Financing Our Plan and Improving Our Balance Sheet

FORD FUTURE COMPETITIVENESS

Sustainable mobility

Definition/Description	Ford's approach to increasing challenges of urban mobility, congestion, urbanization and mega-cities, as well as rural mobility and economic opportunity.
Comments	Reorganized – formerly under a stand-alone mobility category; now an element of Ford's future competitiveness strategy.
Trend (from previous analysis)	Already at the highest level
More information	• Mobility Solutions

VEHICLE SAFETY

Vehicle safety

Definition/Description	Active and passive safety; pedestrian safety; customer interest in and demand for safe vehicles; increasing regulation generally with focus on active safety; challenge of evolving in-vehicle technology.
Comments	Developed and emerging market issues differ.
Trend (from previous analysis)	Ford increasingly emphasizing market opportunity for safer products
More information	• Vehicle Safety • Public Policy Positions: Vehicle Safety • Perspectives on Sustainability: Scott Belcher

SUPPLY CHAIN SUSTAINABILITY

Supplier relationships

Definition/Description	Includes importance of Ford's financial variability to suppliers and vice versa, and importance of strong relationships as well as established policies and performance commitments.
Comments	Increased importance in this analysis, especially to Ford and suppliers.
Trend (from previous analysis)	Increased in importance to Ford and stakeholders
More information	• Supplier Relationships

Supply chain environmental sustainability

Definition/Description	Includes need to address carbon and water issues in supply chain relationships.
Comments	Largely a new issue from last analysis, reorganized and of higher importance to Ford and stakeholders.
Trend (from previous analysis)	NEW
More information	• Supply Chain Environmental Sustainability • Environmental Management: Suppliers

Sustainable raw materials

Definition/Description	Includes issues around conflict minerals, rare earth metals and other strategic materials, and overall impacts of raw material extraction on the environment, communities, geopolitics and Ford's costs.
Comments	New issue this year reflecting increased prominence of these concerns.
Trend (from previous analysis)	NEW

More information	Sustainable Raw Materials • Sustainable Materials • Product Sustainability Index

Human rights in the supply chain

Definition/Description	Issues covered by Ford's working conditions code; need for industry cooperation.
Comments	Issues have been reorganized in this analysis under umbrella of supply chain sustainability. High interest to communities, suppliers and NGOs.
Trend (from previous analysis)	Already at the highest level
More information	• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Perspectives on Sustainability: Sister Patricia Daly

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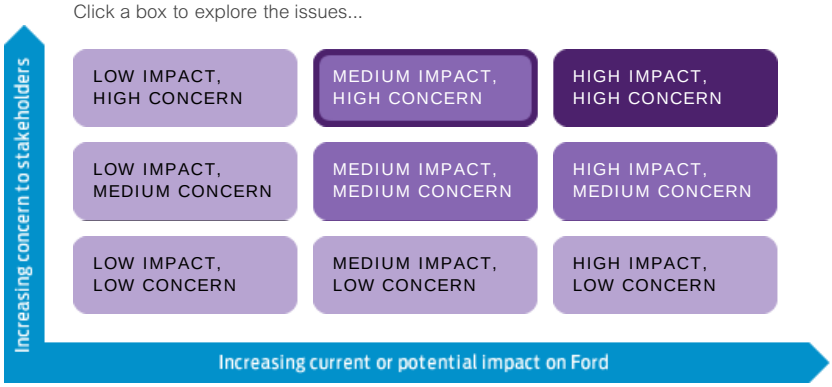
Click a box to explore the issues...



No material issues have been identified at this level

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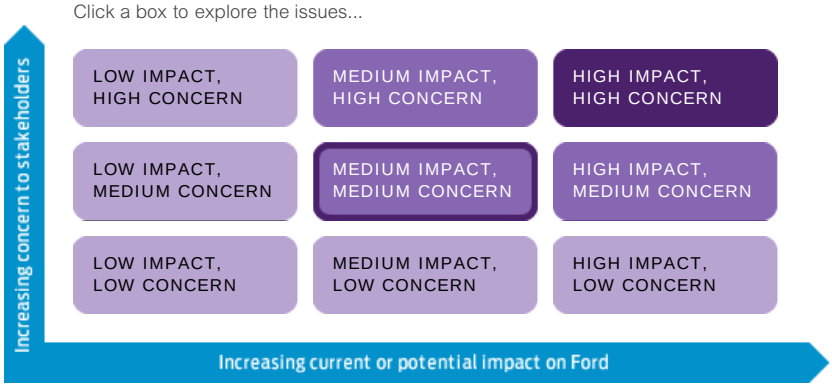

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Seven material issues have been identified at this level

Click on an issue below for more details

FORD FUTURE COMPETITIVENESS

Innovation management

Definition/Description	Includes R&D investment and new business models.
Comments	Of interest to investors.
Trend (from previous analysis)	NEW
More information	• Delivering New Products • Economy Data: Innovation

COMMUNITY

Community impacts and contributions

Definition/Description	Encompasses a range of direct and indirect economic impacts, including local hiring and sourcing and philanthropic donations to the community; also local environmental impacts.
Comments	High concern to communities.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Communities • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Sustaining Ford • Restructuring Our Business • Manufacturing • Case Study: Economic Impacts of the Auto Industry

PUBLIC POLICY

Political payments and contributions

Definition/Description	Includes need for consistent and transparent public policy positions and concerns about Company donations to candidates and campaigns; lobbying costs; employee Political Action Committee; indirect giving through trade associations, etc.
Comments	Stakeholders, including shareholders, are showing increasing interest and advocacy for "political accountability" or transparency around corporate participation in the political process and various forms of corporate political donations.

Trend (from previous analysis)	Same position
More information	• Public Policy • Participation in the Policy-Making Process • Policy Letters and Directives

OPERATIONS

Energy use and oil consumption operations

Definition/Description	Operations/facilities: concerns about cost and availability; energy security.
Comments	Lower level of concern to Ford reflects active and successful management towards targets.
Trend (from previous analysis)	Lower level of concern to Ford
More information	• Environment Progress and Goals • Operations • Environment: Case Studies • Environment Data: Operational Energy Use and CO_2 Emissions

Waste generation and management

Definition/Description	Includes Ford's operational waste generation, management and disposal.
Trend (from previous analysis)	Higher concern for stakeholders
More information	• Waste Management • Environment Data: Waste

Air emissions (other than GHGs)

Definition/Description	Includes VOC and ozone-depleting emissions from operations.
Comments	Lower level of concern to Ford reflects active and successful management towards targets.
Trend (from previous analysis)	Lower level of concern to Ford Higher concern for stakeholders
More information	• Non-CO_2 Tailpipe Emissions • Non-CO_2, Facilty-Related Emissions

Hazardous pollutants

Definition/Description	Hazardous substances in products, manufacturing and supply chain.
Comments	Increasing public interest.
Trend (from previous analysis)	Same position
More information	• Sustainable Materials • Non-CO_2 Tailpipe Emissions • Waste Management • Environment Data: Emissions (VOC and Other)

WORKPLACE

Diversity/equal opportunity

Definition/Description	Diversity of Ford Board and management; harassment programs and monitoring.
Comments	Relatively high concern to NGOs/stakeholders who see diversity as global strategic issue.
Trend (from previous analysis)	Same position
More information	• Diversity and Inclusion in the Workplace • Corporate Governance – Board of Directors • Code of Basic Working Conditions • Society Data: U.S. Employment of Minority-group Personnel and Women at Year-end • Supplier Diversity Development

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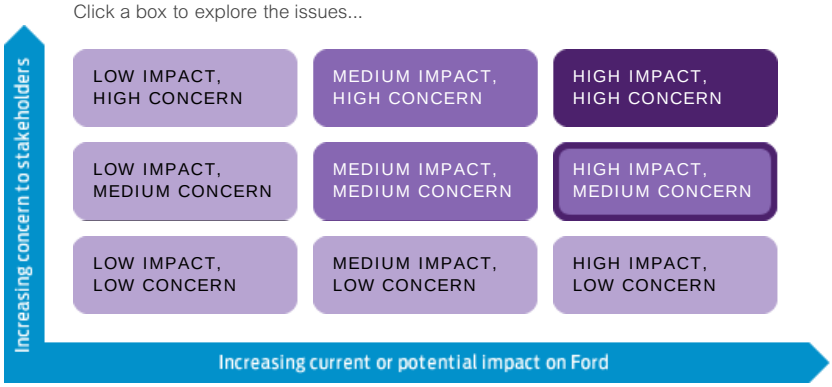

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20 material issues have been identified at this level

Click on an issue below for more details

SUSTAINABILITY VISION, GOVERNANCE AND MANAGEMENT

Sustainability vision, governance and management

Definition/Description	Includes governance structures, goals and indicators, business case, stakeholder engagement, reporting.
Comments	Governance added to vision and management, reflecting growing investor and NGO interest in integrating sustainability into business processes.
Trend (from previous analysis)	Same position
More information	• Letter from William Clay Ford, Jr. • Letter from Alan Mulally • Letter from Sue Cischke • Sustainability Governance • Sustainability Management • Climate Change Governance • Code of Basic Working Conditions • How We Manage Vehicle Safety • Environmental Management • Sustaining Ford

GOVERNANCE

Ethical business practices

Definition/Description	Concerns covered by codes of conduct, e.g., corruption and anti-competitive behavior.
Comments	Among stakeholders, of most concern to investors.
Trend (from previous analysis)	Same position
More information	• Ethical Business Practices • Corporate Governance – Board of Directors • Sustainability Governance

Human rights strategy

Definition/Description	Includes Ford's policies and practices related to human rights.
Comments	This issue has been newly categorized as a governance issue, reflecting its mainstreaming into Ford's business.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Human Rights in the Supply Chain: Ford's Global

	Working Conditions Program

PUBLIC POLICY

Global environmental regulation

Definition/Description	Trend toward greater regulation and the cost of compliance.
Comments	Continues to be of high importance to Ford.
Trend (from previous analysis)	Same position
More information	• Climate Change Risks and Opportunities • Climate Change Policy and Partnerships • Public Policy Positions

FORD FINANCIAL HEALTH

Alignment of products with demand

Definition/Description	Ford's realignment of production capacity to lower levels of demand and the shift from trucks and SUVs to cars; supply-base rationalization; managing downsizing.
Comments	Reduced in importance to stakeholders, still of highest concern to Ford.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Sustaining Ford • Delivering New Products

Manufacturing efficiency

Definition/Description	Includes reduced complexity of products, lean and flexible manufacturing, and flexible work rules.
Comments	Key element of Ford's ability to respond to changing markets; part of public discussion about aid to automakers.
Trend (from previous analysis)	Same position
More information	• Investing in Operations • Current Financial Health

Quality

Definition/Description	Product quality and customer service/customer relationship management.
Comments	Lower concern to stakeholders may reflect Ford's dramatically improved quality record.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Economy: Progress • Customer Satisfaction and Quality • Economy Data: Product, Quality and Service

FORD FUTURE COMPETITIVENESS

Emerging markets products and services strategy

Definition/Description	Ford's approach to emerging markets: infrastructure development; human rights as an issue in growth markets; Ford's impacts/contributions in emerging markets (other than products and services), including local sourcing, pollution, potential for partnerships.
Comments	With projected growth in the Company's Asia Pacific operations, would have increased in importance for the Company if it was not already at the highest level. Key drivers of the issue include congestion, shifting demographics, urbanization and social equity.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Mobility Solutions • Focus on Asia • 2010 Sales and Highlights • Case Study: Sustainable Growth in Asia

WATER

Water use

Definition/Description	Includes impacts on water sources; water management, cost of water and discharges to water.
Comments	Particular concern in areas of water scarcity; issue gaining a higher public profile.
Trend (from previous analysis)	Same position
More information	• Water • Water Use • Environment Data: Water Use

CLIMATE CHANGE

Cleaner vehicle technology

Definition/Description	Ford's development of low-carbon technologies, including hybrids, electric vehicles, clean diesel, fuel cells; also emerging technologies like nanotechnology.
Comments	Lower stakeholder interest, may reflect increased action from automakers in this area.
Trend (from previous analysis)	Lower level of concern to stakeholders
More information	• Ford's Sustainable Technologies and Alternative Fuels Plan • Vehicle • Delivering More Fuel-Efficient Vehicles • Products

OPERATIONS

Operational environmental management

Definition/Description	High-level environmental operational concerns, including environmental management, environmental compliance.
Comments	Environmental compliance a concern to communities. Increased importance to Ford reflects management focus on achieving environmental targets.
Trend (from previous analysis)	Increased in importance to Ford
More information	• Environmental Management • Operations • Greenhouse Gas Emissions Overview

GHG emissions – operations

Definition/Description	Includes cost of controlling GHG emissions.
Comments	Less of a concern than GHG emissions from vehicles, but rated high for Ford and NGOs/stakeholders.
Trend (from previous analysis)	Same position
More information	• Greenhouse Gas Emissions Overview • Environment Progress and Goals • Our Strategy: Blueprint for Sustainability • Environment Data: Operational Energy Use and CO_2 Emissions

Other operational environmental issues

Definition/Description	Includes spills, nuisances (noise), and pre- and post-production logistics.
Trend (from previous analysis)	Increased in importance to Ford and stakeholders
More information	• Operations

PRODUCT

Tailpipe emissions

Definition/Description	Air-quality impacts of vehicle emissions other than GHGs; trend toward greater regulation.
Comments	High concern to customers/NGOs/stakeholders; impact on Ford due to increased and inconsistent regulation.
Trend (from previous analysis)	Same position
More information	• Non-CO_2 Tailpipe Emissions • Environment Progress and Goals • Ford's Sustainable Technologies and Alternative Fuels

	Plan • Environment Data: Tailpipe Emissions

Environmentally preferred materials

Definition/Description	Cradle-to-cradle approach; use of renewable, recycled, recyclable materials.
Comments	Formerly “sustainable materials.”
Trend (from previous analysis)	Same position
More information	• Sustainable Materials

Lifecycle assessment

Definition/Description	Includes the need for defensible lifecycle assessment processes.
Comments	New issue this year. Reflects growing interest in lifecycle assessment among consumers and other stakeholders, with a particular focus on GHG emissions and water.
Trend (from previous analysis)	NEW
More information	• Design for Lifecycle Sustainability • End of Life • Water • Lifecycle Vehicle CO_2 Emissions

WORKPLACE

Workplace health and safety

Definition/Description	Health and safety management systems; ergonomics.
Comments	Emerging issue is managing health and safety impacts of downsizing.
Trend (from previous analysis)	Same position
More information	• Workplace Health and Safety • Human Rights • Working Conditions in Ford Plants • Society Data: Workplace Safety

Employee morale and teamwork

Definition/Description	Includes issues of employee satisfaction, development, recruitment and retention as well as increasing employee interest in sustainability.
Comments	New sub-issues were added in this category including employee interest in working for a sustainable company and the need to engage employees in sustainability issues.
Trend (from previous analysis)	Increased in importance to stakeholders
More information	• Supporting a Great Place to Work • Fostering a Capable and Effective Workforce

Employees/labor practices/decent work

Definition/Description	Ford’s employment practices, including wages, wage ratios, benefits, permanent v. temporary positions; training and education; turnover; impact of aging workforce.
Comments	High concern to communities and investors.
Trend (from previous analysis)	Increased in importance to Ford
More information	• Employees • Human Rights in the Supply Chain: Ford’s Global Working Conditions Program • Restructuring Our Business

COMMUNITY ENGAGEMENT

Community engagement

Definition/Description	License to operate, NGO relationships and specific community concerns like breast cancer, obesity, compliance.
Comments	Increasing concern to Ford, lower concern to to communities and NGOs in this analysis. However, community interest in specific issues of engagement like water increased in this analysis.

Trend (from previous analysis)	Increased in importance to Ford Lower level of concern for stakeholders
More information	• Communities

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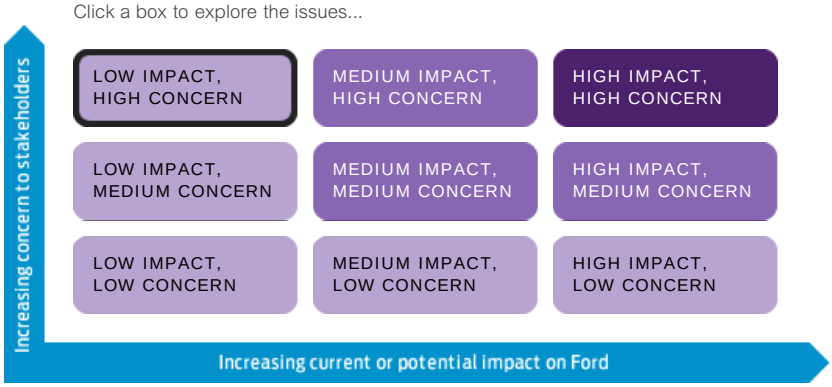

No material issues have been identified at this level

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Materiality Matrix

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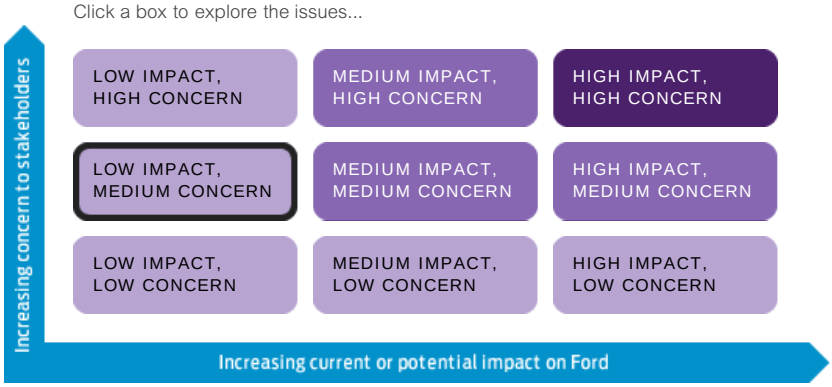

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Two material issues have been identified at this level

GOVERNANCE

- Shareholder concerns (resolutions)

OPERATIONS

- Land and nature

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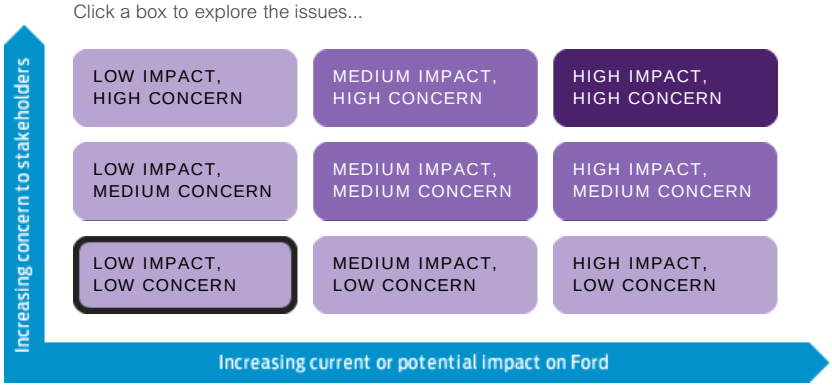
Materiality Matrix

Click a box to explore the issues...



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Two material issues have been identified at this level

PUBLIC POLICY

- Health care policy

CLIMATE CHANGE

- Emissions trading/cost of carbon

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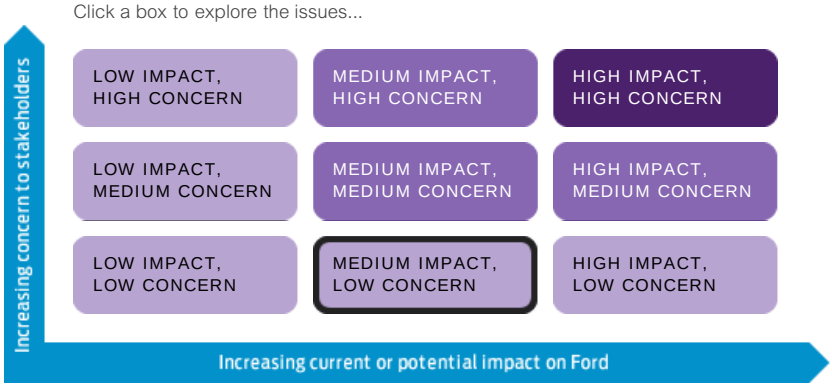

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- Issues in these boxes set the agenda for the rest of the web report and future reporting
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Seven material issues have been identified at this level

FORD FINANCIAL HEALTH

- Dealer viability and competitiveness
- Supplier viability and competitiveness

PRODUCT

- Labeling
- Noise
- Customer privacy
- Marketing communications/demand creation/advertising

VEHICLE SAFETY

- Emerging market vehicle and road safety

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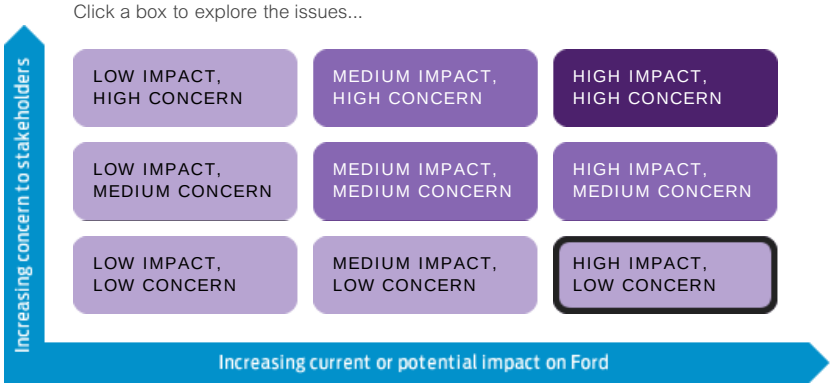
Materiality Matrix

Click a box to explore the issues...



Reporting Priorities

- Issues in this box set the agenda for our material issues section and printed summary
- Issues in these boxes set the agenda for the rest of the web report and future reporting
- Issues in these boxes are not currently covered in detail by reporting

Five material issues have been identified at this level

CLIMATE CHANGE STRATEGY

- Clean/alternative fuels
- Other climate change issues

PRODUCT

- End-of-life management
- Vehicle interior air quality
- Compliance

Climate Change

2010 HIGHLIGHTS...

- Offered four Ford vehicles that achieve 40 mpg or better
- Began producing the Transit Connect Electric, the first of five electrified vehicles
- Reduced CO_2 emissions from global operations by 5.6 percent on a per-vehicle basis since 2009
- Announced development of a solar energy system at the Michigan Assembly Plant

Ford is committed to doing our share to prevent or reduce the potential for environmental, economic and social harm due to climate change.

We have a comprehensive, science-based global strategy to reduce greenhouse gas (GHG) emissions from our products and processes while working cooperatively with the public and private sectors to advance climate change solutions. We are taking a holistic approach to the issue, recognizing that it affects all parts of our business and is interconnected to other important issues, from water availability and energy security to human rights.

We believe our commitment to addressing the climate change issue in a comprehensive and strategic way is one of the factors that has helped to transform our Company's current and future products and prospects.

Our Commitment

Our climate change strategy is based on doing our share to stabilize carbon dioxide (CO_2) concentrations in the atmosphere at 450 ppm, the level generally accepted to avoid the most serious effects of climate change. Our stabilization commitment includes:

- Each new or significantly refreshed vehicle will be best in class, or among the best in class, for fuel economy
- From our global portfolio of products, we will reduce GHG emissions enough to contribute to climate stabilization – even taking into account sales growth
- We will reduce our facility CO_2 emissions by 30 percent by 2025 on a per-vehicle basis.

During 2010, we expanded the climate stabilization analysis that we had undertaken previously for the U.S. and Europe to the other regions in which we operate. This analysis defines the emission reductions needed to meet our stabilization commitment. For an in-depth look at the science behind our commitment, please see Ford's Science-Based CO_2 Targets.

Our technology migration plan – embodied in our blueprint for sustainability – maps the road we're taking to achieve our product goals.

Our Progress

We are on track to meet our commitments. We are making progress by adding advanced technology to all our products and offering high-value, attractive models that are smaller, lighter and more fuel efficient, encouraging customers to shift purchase behavior. We also continue to invest in energy-efficiency improvements at our facilities worldwide and, during 2010, explored carbon emissions in our supply chain through multi-stakeholder projects.

Among recent and upcoming actions, we:

- Reduced fleet-average CO_2 emissions from our 2010 model year U.S. and European new vehicles by 10.5 percent and 8.1 percent, respectively, compared to the 2006 model year.[1]
- Reduced CO_2 emissions from our global operations by 5.6 percent on a per-vehicle basis, compared to 2009.
- Announced three more engines with our patented EcoBoost fuel-saving technology. By 2013, we expect to be producing approximately 1.5 million EcoBoost engines globally, about 200,000 more than originally expected.

Perspectives on Sustainability

Mark Fulton and Bruce Kahn

Global Head of Investment Research and Senior Investment Analyst for Climate Change, DB Climate Change Advisors

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Perspectives on Sustainability

Gerhard Schmidt

Chief Technical Officer, Vice President of Research and Advanced Engineering (Emeritus), Ford Motor Company

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- Offered four models in North America that provide 40 miles per gallon or better – compared to 2009, when our most fuel-efficient vehicle achieved 35 miles per gallon.
- Offered 18 models in Europe that achieve a CO_2 emission level of 130 grams per kilometer, and two that achieve less than 100 grams per kilometer.
- Announced the development of a solar energy system – one of the largest in Michigan – that will help power the production of fuel-efficient small cars, including the Focus Electric, at our Michigan Assembly Plant.

Our Policies

Ford cannot achieve climate stabilization alone. Reducing emissions by the amount required calls for an integrated approach – a partnership of all stakeholders, including the automotive industry, the fuel industry, government and consumers. It can only be achieved by significantly and continuously reducing GHG emissions over a period of decades in all sectors of the economy. In the transportation sector, this means improving vehicle fuel economy, developing lower-carbon fuels and providing price signals to encourage consumers to purchase more fuel-efficient vehicles.

If there is a mismatch between available fuels, vehicles and consumers, climate stabilization goals will not be met. Accordingly, we are committed to advocating for effective and appropriate climate change policy. We are promoting comprehensive market-based policy approaches that will provide a coherent framework for GHG emission reductions, so that companies like ours can move forward in transforming their businesses with a clear understanding of our obligations.

In This Section

In this section of our Sustainability Report we provide an overview of GHG emissions, including data on the contribution of light-duty vehicles, lifecycle CO_2 emissions from a typical vehicle and Ford's own climate "footprint." We also discuss the risks and opportunities the climate change issue poses for Ford, our climate change strategy – including our blueprint for sustainability – and how we are addressing climate change public policy issues. An electrification case study explores how we are bringing electrified vehicles to market.

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1. Please see Sue Cischke's letter for a discussion of our CO_2-reduction goal for North America and Europe.

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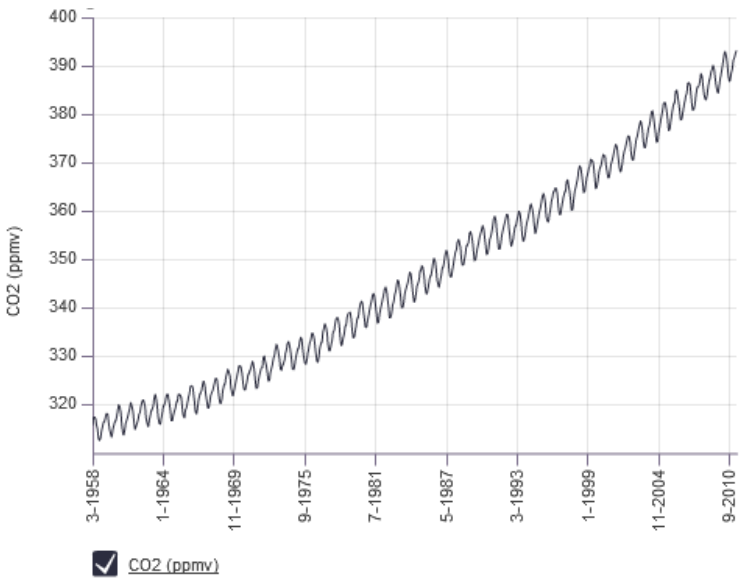
Greenhouse Gas Emissions Overview

Climate change is the result of an increase in heat-trapping (greenhouse) gases in the atmosphere. Carbon dioxide (CO_2) is the major long-lived greenhouse gas (GHG). The burning of fossil fuels (to provide electricity, heat and transportation, and to support industry and agriculture), as well as deforestation, leads to emissions of CO_2 and increased levels of atmospheric CO_2. The atmospheric concentration of CO_2 has increased from a preindustrial level of 270–280 parts per million (ppm) to a level of approximately 390 ppm in 2010 (see Figure 1).

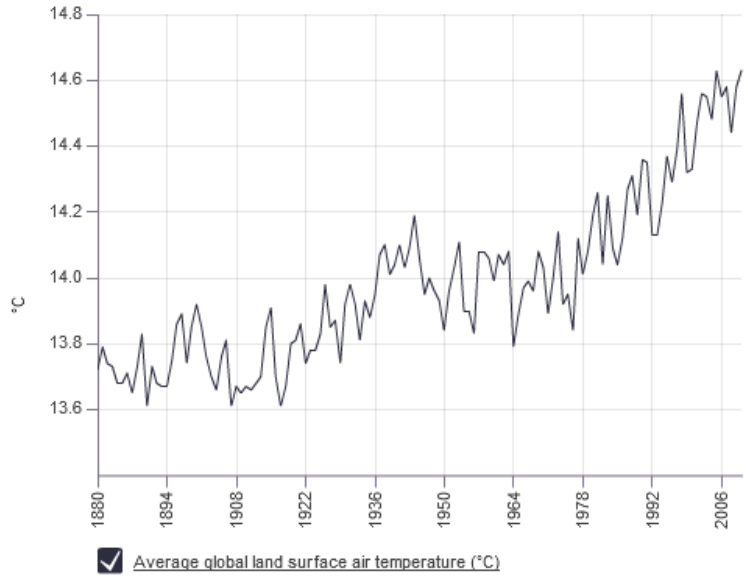
Global temperature records have been reported independently by scientists at the National Aeronautics and Space Administration (NASA) in the U.S., the National Oceanic and Atmospheric Administration in the U.S., the Climate Research Unit at the University of East Anglia in the U.K. and the Japanese Meteorological Agency. The records from these four independent groups are in good agreement and show a distinct warming trend over the past century. The past decade was the warmest decade in the instrumental temperature record. As shown in Figure 2, the warming trend is continuing, and 2010 was one of the warmest years on record. Independent measurements of rising sea level, increasing acidification of the oceans, loss of Arctic sea-ice, and the retreat of glaciers around the world are consistent with the impact of rising GHG concentrations and global temperature.

Figure 1: CO_2 concentration measured at the observatory in Mauna Loa, Hawaii



Data source: NOAA (2011)

Figure 2: Global temperature



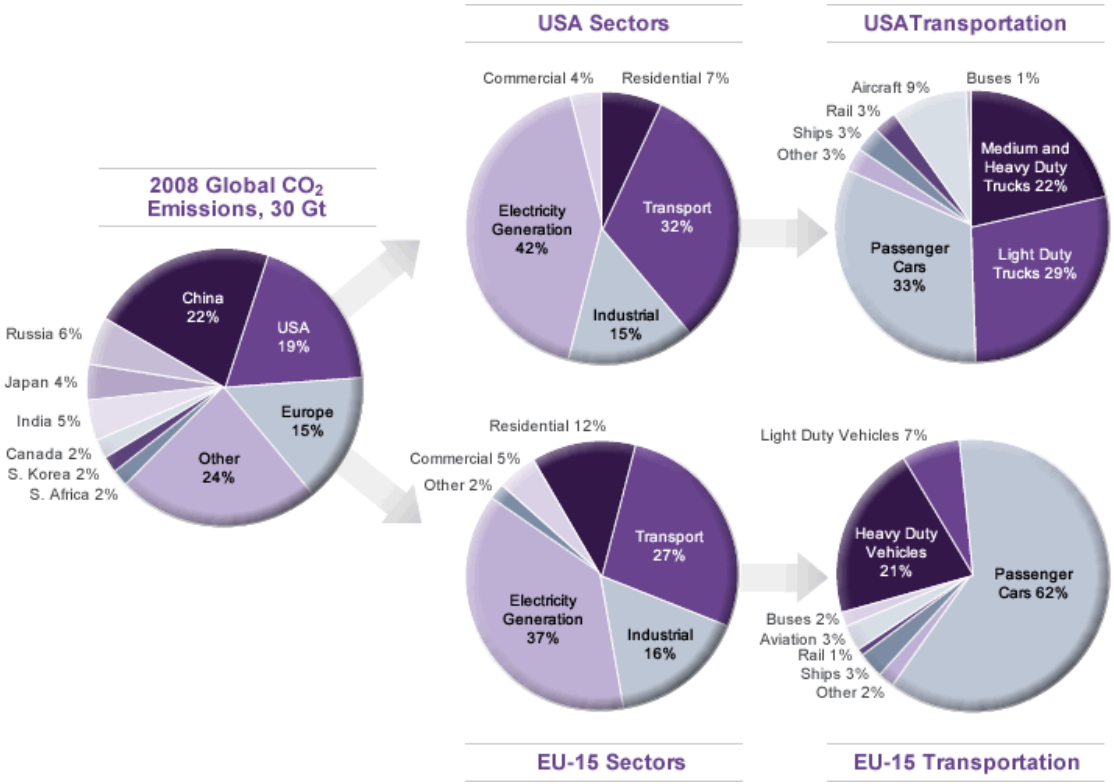
Data source: NASA (2011)

Global Emissions

Figure 3 (below) provides a breakdown of estimated 2008 fossil fuel CO_2 emissions by region. For the U.S. and Europe, the emissions are further broken down by sector and by mode in the transportation sector. The data were taken from reports published by the International Energy Agency, the European Environment Agency and the U.S. Environmental Protection Agency. Globally, emissions from cars and light-duty trucks comprise about 11 percent of all fossil fuel CO_2 emissions. In the U.S., cars and light-duty trucks account for approximately 20 percent of fossil fuel CO_2 emissions, or approximately 4 percent of global fossil fuel CO_2 emissions. In Europe, passenger cars and light-duty trucks account for approximately 19 percent of fossil fuel CO_2 emissions, or about 3 percent of global fossil fuel CO_2 emissions.

Until recently, the U.S. was the largest CO_2 emitter. In 2007, however, emissions from China surpassed those from the U.S. It is expected that the gap between emissions from China and the U.S. will continue to widen in the future, although per-capita emissions of CO_2 in the U.S. are expected to remain higher (currently by approximately a factor of four) than those in China.

Figure 3: Regional distribution of fossil fuel CO_2 emissions in 2008



The top pie charts show a breakdown of U.S. emissions into end-use sectors and a breakdown of emissions from the U.S. transportation sector into different transportation modes. The bottom pie charts show comparable data from the EU.

Lifecycle Vehicle Emissions

The GHG emissions associated with Ford's activities include emissions from our facilities, from the transportation of our products and people, from the vehicles we produce once they are in use by customers and from our suppliers. In this report, we provide data on CO_2 emissions from our facilities and our U.S. and European new products. Additional information on our GHG footprint is found in the Lifecycle Vehicle CO_2 Emissions section.

For conventional gasoline- or diesel-powered vehicles, most of the lifecycle CO_2 emissions are released when the vehicles are driven, rather than when they are manufactured, maintained or recycled at end of life. As vehicle fuel efficiency improves and lower-carbon fuels are made available, we expect that the relative contribution of CO_2 emissions from the fuel-consumption phase will decrease (see Lifecycle Vehicle CO_2 Emissions). For Plug-in Hybrid Electric Vehicles (PHEVs), Battery Electric Vehicles (BEVs) and hydrogen-powered Fuel Cell Vehicles (FCVs), most of the lifecycle CO_2 emissions are released during the production of the electricity or hydrogen that provides the energy for the vehicle. A systems perspective is required when considering the CO_2 emissions and energy use associated with light-duty vehicle technologies. Considering either the vehicle technology or the fuel technology in isolation is not sufficient. BEVs and FCVs are capable of achieving very low CO_2 emissions, but only when powered by low-CO_2 electricity or hydrogen. The use of energy-efficient vehicles such as BEVs or FCVs does not in itself lead to a reduction in CO_2 emissions; those vehicles need to be combined with low-CO_2 fuels to achieve low total CO_2 emissions.

The estimation of lifecycle CO_2 emissions associated with myriad possible future vehicle-fuel combinations is a complex task. Scientists at Ford are working to develop a detailed understanding of the lifecycle impacts of the different technologies. We anticipate this will be an ongoing effort and that we will discuss the results in future Sustainability Reports.

Snapshot of Greenhouse Gas Emissions from Ford Facilities and Ford-Produced Vehicles

During 2010, we updated our estimate of global GHG emissions from our facilities and Ford vehicles, using data from 2008, the most recently available. The estimate is shown in Figure 1, along with the estimates carried out in 2001 and 2006/7 for the years 1999 and 2005, respectively.

We estimate that our total CO_2 emissions are in the range of 350–400 million metric tonnes (Mmt) per year, varying over time with fluctuations in vehicle production and sales, on-road fleet size and vehicle miles traveled. The estimate includes emissions from our facilities, emissions from current year vehicles and emissions from all Ford vehicles on the road. Please note that while we can exercise a significant degree of ongoing control over our facility emissions, we have essentially no control over the emissions of vehicles once they are produced and on the road.

Our assessment of the emissions from Ford's facilities and Ford-made vehicles on the road decreased between 2005 and 2008 from approximately 400 to 350 million metric tonnes of CO_2, primarily due to better data availability for a key parameter.[1] Normalizing for the change in the key parameter, the emissions remained relatively stable at approximately 350 Mmt.

Outside the scope of this estimate, we are also in the process of understanding the GHG emissions from our key suppliers' facilities, as described in the Supply Chain section.

Figure 1. Estimate of CO_2 emissions from our facilities and Ford vehicles on the road in 2008, 2005 and 1999.

Chart | Table

Million metric tons CO_2 (approx.)

	1999	2005	2008
Facilities	9	8	5
New vehicles, World	35	37	29
Vehicles on the road, World	338	370	308
Total	**383**	**415**	**342**

New vehicles are those sold in the year of interest; vehicles on the road are those sold prior to the year of interest.

In detail, the updated 2010 snapshot of estimated CO_2[2] emissions shows that between 2005 and 2008:

- Emissions from our facilities improved by approximately 38 percent during this period. This reflects an approximately 16 percent improvement in the amount of CO_2 emitted per vehicle produced (i.e., our energy-efficiency index improved globally by about 16 percent from 2005 to 2008). It also reflects lower overall vehicle production. These estimates are fairly precise.[3] Facility GHG emissions, however, are a small percentage (about 2 percent) of the total.
- Emissions from current-year (2008[4]) vehicles on the road decreased by about 22 percent relative to the prior year, primarily reflecting a decline in vehicle sales. We have moderate confidence in the precision of the estimate for U.S. vehicles; the estimate for the rest of the world is less precise.[5] These emissions account for about 8 percent of the total.
- Emissions from all Ford vehicles on the road are estimated to be about 308 million metric tonnes of CO_2 per year, lower than in our previous analyses, primarily due to better data availability for a key parameter. This estimate, which accounts for about 90 percent of the total,

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- Supply Chain Greenhouse Gas Emissions

remains highly uncertain.[6]

1. Our estimate for the CO_2 emissions for the greater-than-one-year-old on-road fleet decreased from 370 to 308 Mmt between 2005 and 2008. This decrease primarily reflects better data availability for a key value in the calculation (the global Light Duty Vehicle fraction of road transportation petroleum use, which we now assume to be 0.6 as opposed to 0.7 in our previous analyses). Using the old data value of 0.7 for the 2008 global CO_2 estimate would increase the 308 Mmt value to 359 Mmt. Such changes in our assessment reflect the difficulties in assessing precisely the emissions from the global fleet of Ford vehicles.
2. CO_2 emissions account for substantially all of the GHG emissions from our facilities and vehicles.
3. This is calculated consistent with the World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol; it includes direct (Scope 1) and indirect (Scope 2) emissions.
4. 2008 is the most recent year for which complete data is available.
5. Calculated using Ford U.S. Corporate Average Fuel Economy and global market share figures. This estimate is subject to considerable uncertainty as it incorporates multiple assumptions about how consumers use their vehicles (e.g. miles traveled overall and urban-highway breakdown) and about fuel economy values in markets outside of the U.S.
6. This is calculated based on our market share and a sector-based approach to determine the fractional contribution of LDVs to global total CO_2 emissions. This estimate is subject to considerable uncertainty, as it is based on multiple assumptions, including that all automakers' fleets have the same fuel economy and vehicle life span.

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Supply Chain

We are currently evaluating climate change risks and opportunities across our supply chain and expanding our approach to enhance supplier environmental performance beyond more established supplier environmental performance expectations, such as robust environmental management systems (ISO 14001 certification) and responsible materials management. (See the Greenhouse Gas Emissions section for details of our participation in initial efforts to assess greenhouse gas emissions in our supply chain.)

Within the Aligned Business Framework agreement with our strategic suppliers, environmental leadership is integral to overall business performance metrics. Climate-change-related activities are highlighted as potential leadership opportunities. In addition, our requirement that suppliers implement robust environmental management systems will better enable them to understand, measure and report their emissions. We will also seek out opportunities to partner with suppliers to improve the greenhouse gas emissions performance of our products and processes, and improve energy efficiency throughout the vehicle lifecycle, including in the supply chain.

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Beyond CO_2

We have a holistic view of climate change and have addressed non-carbon-dioxide (CO_2) long-term greenhouse gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrous oxide (N_2O) and sulfur hexafluoride (SF_6). Through our Restricted Substance Management Standard we have prohibited SF_6 in tires in magnesium casting and PFCs in open systems. We are continuing our scientific research to determine the relative contribution of a wide range of long-lived greenhouse gases to radiative forcing of climate change.

In 2010, we worked with an international team of climate and atmospheric scientists under the auspices of the World Meteorological Organization to assess the global warming potentials of long-lived greenhouse gases. Given the impressive reductions in the emission of criteria pollutants (hydrocarbons, NOx, particulate matter and carbon monoxide) enabled by improvements in engine and exhaust after-treatment technology, we believe that the contribution to climate change by these short-lived pollutants from light-duty vehicles will be of relatively minor importance in the future.[1] We have presented a technical assessment arguing that time horizons of 20 years, or longer, are needed in assessments of the contribution of road transport to radiative forcing of climate change.[2]

While carbon dioxide is by far the most important greenhouse gas associated with the use of motor vehicles, small amounts of other greenhouse gases are also emitted, notably methane (CH_4), N_2O and hydrofluorocarbon-134a (HFC-134a). Methane is formed in the engine and emitted into the atmosphere. We have assessed the contribution to climate change made by methane emissions from vehicles as about 0.3 to 0.4 percent of that of the CO_2 emissions from vehicles. We have assessed the contribution to climate change from N_2O emissions from vehicle tailpipes (not including potential emissions associated with fuel production) as about 1 to 3 percent of that of the tailpipe CO_2 emissions from vehicles. Finally, we have estimated that the radiative forcing contribution of HFC-134a leakage from an air-conditioner-equipped vehicle is approximately 3 to 5 percent of that of the CO_2 emitted by the vehicle.[3] When expressed in terms of "CO_2 equivalents," the contribution of vehicle emissions to radiative forcing of climate change is dominated by emissions of CO_2.

CFCs, HFCs, HFOs and the Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer (1987) regulates the emissions of ozone-depleting substances such as chlorofluorocarbons (CFCs). Ford has been a leader in conducting research on CFC replacements. In 2010 we were awarded a U.S. Environmental Protection Agency Montreal Protocol Award in recognition of our work in this area. In the 1980s and early 1990s all vehicle manufacturers used CFC-12 (CF2Cl2) as the refrigerant in air conditioning (AC) units. By the mid-1990s vehicle manufacturers switched to hydrofluorocarbon-134a (also known as HFC-134a or CF3CFH2). Hydrofluorocarbons contain only hydrogen, fluorine and carbon. Hydrofluorocarbons do not contain chlorine and hence do not contribute to the well-established chlorine-based stratospheric ozone depletion chemistry. HFC-134a has a shorter atmospheric lifetime and smaller global warming potential than CFC-12 (see Table 1).

The lifecycle emissions of CFC-12 from AC-equipped vehicles in 1990 was approximately 400 g per vehicle per year.[4] We estimate that lifecycle emissions of HFC-134a from vehicles manufactured in 2010 are approximately 100 g per vehicle per year.[5] Looking to the future, based on published assessments,[6] we believe that HFC-134a emissions from a typical light-duty vehicle manufactured in 2017 will be approximately 50 g per vehicle per year.

Regulations in the EU require us to use compounds with global warming potentials of 150 or less in the AC units of all new vehicles starting in 2011 and all registered vehicles starting in 2017. HFC-134a has a global warming potential of 1,370,[7] and the automotive industry will not be able to use this compound in the future in new vehicles in the EU. Hydrofluoroolefins (HFOs) are a class of compounds that are safe for the ozone layer and have very small global warming potential (typically <10). Based upon engineering, environmental and safety assessments, Ford has chosen the compound known as HFO-1234yf (also known as HFC-1234yf or CF3CF=CH2) for use in our European vehicles subject to the above-mentioned legislation timing. Research at Ford[8] has established that HFO-1234yf has a global warming potential of 4.

To place the emissions of CFC-12, HFC-134a and HFO-1234yf into perspective, we can compare their contribution to radiative forcing of climate change with that of CO_2 emitted by the tailpipe of the vehicle. Figure 1 shows this comparison for a typical car in the U.S. from 1990, 2010 and 2016. The CO_2 equivalent (CO_2eq) contributions from refrigerants in Figure 1 were calculated assuming a CFC-12 AC system in 1990, an HFC-134a system in 2010 and either an HFC-134a or an HFO-1234yf system in 2016. The CO_2eq values for CFC-12, HFC-134a and HFO-1234yf were calculated using the emission estimates given above and the global warming potentials given in Table 1. The tailpipe CO_2 values were calculated using the U.S. National Highway Traffic Safety Administration requirement fuel economies of 27.5 mpg in 1990 and 2010 and 37.8 mpg in 2016

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External Websites:
- Montreal Protocol

and assuming the car is driven 10,000 miles per year.

As seen in Figure 1, the emissions of CFC-12 from an AC-equipped car in 1990 had a climate impact that was actually greater than that of the CO_2 emitted from the tailpipe of the car. Replacement of CFC-12 with HFC-134a, together with improvements in the AC system, has led to a dramatic (approximately 30-fold) decrease in the climate impact of refrigerant emissions per vehicle for an AC-equipped vehicle (compare the two left-hand columns in Figure 1). Looking to the future, we anticipate a further – approximately factor of two – decrease in the impact of HFC-134a emissions on a per-vehicle basis (see the third column in Figure 1). Replacing HFC-134a with HFO-1234yf leads to a further decrease in the climate impact, and the AC refrigerant impact ceases to be discernible in the right-hand column in the figure.

The U.S. Environmental Protection Agency has proposed that HFCs such as HFC-134a should be added to, and regulated as part of, the Montreal Protocol. We do not support the inclusion of HFCs within the Montreal Protocol based upon three well-established scientific facts:

First, HFCs do not contribute to the depletion of stratospheric ozone. HFCs should therefore not be included in the *Montreal Protocol on Substances that Deplete the Ozone Layer*.

Second, as seen in Figure 1, replacing CFC-12 by HFC-134a has been a major step forward in environmental protection. Retaining the option to use HFC-134a in the future increases our ability to deliver cost-effective solutions for our customers.

Third, emissions of CO_2, CH_4 and N_2O, not HFCs, are the main driver of climate change. (HFCs are currently responsible for less than 1 percent of the radiative forcing by long-lived GHGs.13) Regulations focused on less than 1 percent of the problem are not very useful. We need to adopt a lifecycle perspective and focus on the most cost-effective options. More study, including an assessment of cost effectiveness, is required before enacting blanket restrictions on HFCs.

Figure 1: Annual in-use greenhouse gas (GHG) emissions from typical AC-equipped cars in the U.S. in 1990, 2010 and 2016 using either CFC-12 (in 1990, left-hand bar), HFC-134a (2010 and 2016, middle bars), or HFO-1234yf (right-hand bar) refrigerants.

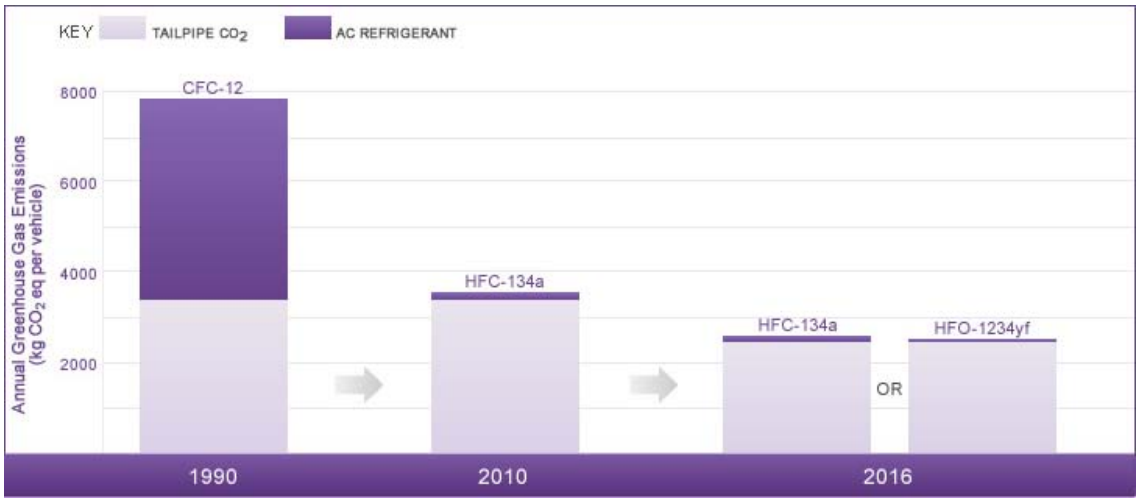

Table 1: Comparison of CFC-12, HFC-134a and HFO-1234yf

Compound	Chemical Formula	Safe for Ozone?	Atmospheric Lifetime[9]	Global Warming Potential[9]
CFC-12	CF_2Cl_2	No	100 years	10,900
HFC-134a	CF_3CFH_2	Yes	13.4 years	1,370
HFO-1234yf	$CF_3CF{=}CH_2$	Yes	11 days	4

1. T.J. Wallington, J.E. Anderson, S.A. Mueller, S. Winkler and J.M. Ginder, "Emissions Omissions," *Science* 327, 268, (2010).
2. T.J. Wallington, J.E. Anderson, S.A. Mueller, S. Winkler, J.M. Ginder and O.J. Nielsen, "Time Horizons for Transport Climate Impact Assessments", *Environ. Sci. Technol.* 45, 3169 (2011).
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6. S. Papasavva, D.J. Luecken, R.L. Waterland, K.N. Taddonio and S.O. Andersen, "Estimated 2017 Refrigerant Emissions of 2,3,3,3-tetrafluoropropene (HFC-1234yf) in the United States Resulting from Automobile Air Conditioning," *Environ. Sci. Technol.* 43, 9252, 2009.

7. World Meteorological Organization, ***Scientific Assessment of Ozone Depletion: 2010***, Geneva, 2010.
8. O.J. Nielsen, M.S. Javadi, M.P. Sulbaek Andersen, M.D. Hurley, T.J. Wallington and R. Singh, "Atmospheric Chemistry of CF3CF=CH2: Kinetics and Mechanisms of Gas-Phase Reactions with Cl Atoms, OH radicals, and O_3", ***Chem. Phys. Lett.*** 439, 18 (2007).
9. Data source: WMO/UNEP, Scientific Assessment of Ozone Depletion: 2010, Geneva, 2010.

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Lifecycle Vehicle CO_2 Emissions

Lifecycle assessment tracks emissions generated and materials consumed for a product system over its entire lifecycle, from cradle to grave, including material production, product manufacture, product use, product maintenance and disposal at end of life. For vehicles, this includes the environmental burdens associated with making materials (e.g., steel, aluminum, brass, copper, plastics, etc.), fabricating them into parts, assembling the parts into a vehicle, operating the vehicle over its entire lifetime, producing fuel for the vehicle, maintaining the vehicle and finally disposing of the vehicle at the end of its life. Lifecycle assessment is an essential tool when thinking about the environmental impacts of complex systems.

In our report last year, we presented the results of a lifecycle analysis for a representative midsize car and SUV in the U.S. We have used our Product Sustainability Index method to report the lifecycle carbon dioxide (CO_2) emissions from the Ford Galaxy, S-MAX and Fiesta vehicles sold in Europe. Full reports on these vehicles are available online. At present, lifecycle CO_2 emissions from vehicles are dominated by CO_2 released during fuel consumption. Product disposal has a minor impact on airborne emissions and energy consumption relative to other phases of the product system. As vehicle fuel efficiency improves and lower-carbon fuels are made available, the relative contributions of CO_2 emissions from the fuel-consumption phase will likely decrease. We are working on lifecycle emission estimates for electrified vehicles (i.e., plug-in hybrids and Battery Electric Vehicles) and expect to describe the results in future reports.

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Climate Change Risks and Opportunities

Over the past decade, concerns about climate change, the price of fuel and energy security – along with the global recession – have dramatically changed the automotive business. This creates substantial risks for automakers but also opportunities for innovation that enable growth and expansion. Below we discuss the general trends driving change in our markets and take a closer look at several key markets. We also discuss the physical and supply chain risks to our business posed by climate change.

Our Markets

There is little doubt that the climate change issue has fundamentally reshaped automotive markets around the world. The policy landscape is becoming more complex and interconnected with other market forces. The Climate Change Policy and Partnerships section of this report discusses regulatory developments in detail, but in brief, all of our major markets are increasingly shaped by government actions to regulate fuel economy and carbon dioxide (CO_2) emissions, introduce low-carbon fuels and provide incentives to shift consumer and business behavior. Many governments are also actively involved in promoting research, development and purchase of new vehicle and battery technologies.

Concerns about fuel prices and price volatility continue to drive a long-term trend toward consumer interest in smaller and more fuel-efficient vehicles. In many markets, energy security concerns are also a driver of fuel economy regulation and alternative fuel development, as governments and consumers seek to rely as much as possible on domestic sources of transportation fuel and reduce imports of petroleum products.

Investors are showing greater concern about climate change as a material risk for many companies. A variety of voluntary public registries and information services (such as the Carbon Disclosure Project) are providing information on greenhouse gas emissions to investors, while in some countries companies are required to disclose information about their climate risks. Thus, providing climate-change-relevant information to investors and shaping our business strategy with climate change in mind are important elements of maintaining access to capital.

These market shifts are very significant to our Company. Everywhere we operate, the financial health of our Company depends on our ability to predict market shifts of all kinds and to be ready with the products and services our customers demand.

Our product globalization strategy is designed to help us respond to changing markets and regional preferences and the risks and opportunities presented by the climate change issue. We have created global platforms that offer superior fuel economy, safety, quality and customer features. We then tailor each global platform to national or regional preferences and requirements. Our pledge that all our vehicles will offer the best or among the best fuel economy in their segment, coupled with a technology migration plan that is based on the science of climate change, positions us to keep pace or get ahead of regulatory requirements. New technology is also cutting the time required to bring new vehicles to market, which helps us respond more effectively to the ever-increasing pace of change in our markets.

This approach has helped us take advantage of the market demand for more fuel-efficient vehicles and gain market share. However, the possibility that fuel prices could decline means there is also a risk that consumer preferences will shift back toward less fuel-efficient vehicles.

Please see the Economy section for further discussion of our changing markets and how we are responding to them, and the Our Strategy: Blueprint for Sustainability section for discussion of Ford's strategic response to the risks and opportunities posed by the climate change issue.

Regional Market Trends

North America

New regulations (discussed in the Climate Change Policy and Partnerships section) and concerns about fuel prices, energy security and the impacts of climate change are encouraging the sale of more fuel-efficient vehicles. Between 2005 and 2010, the car share of the U.S. market increased from 47.2 percent to 49.6 percent, while the truck share declined from 52.8 percent to 50.4 percent. Sales of small cars increased from 19 percent to 21.9 percent of all sales. Sales of hybrid electric vehicles declined in 2010 but began to rise again in early 2011 as the cost of fuel rose significantly.

Europe

Related Links

This Report:

- Climate Change Policy and Partnerships

In Europe, the long-term trend of high-priced fuel and increasing fuel efficiency has continued the market shift toward diesel-powered vehicles, which now make up more than half of all new vehicle sales. This trend is reinforced by sales incentives in some European countries designed to encourage new vehicle sales, with the aim of reducing carbon dioxide emissions from older, less-efficient vehicles. Some of these incentives are bound to upper limits of CO_2 emissions of 160 g/km and less, which has boosted sales of small cars. Other schemes are linked to regulatory emissions standards (e.g., Euro 4 and Euro 5). In addition, tough new CO_2 emission regulations have come into effect, which will continue to drive fuel-economy improvements in new automobiles. Automakers, including Ford, have begun to introduce and announce plans for hybrid electric, battery electric and plug-in hybrid electric vehicles for the European market.

Asia

The Chinese government is actively promoting vehicle electrification and supporting research in this area, based on its desire to support growth and development, balanced with the need for energy security and a cleaner environment. The Chinese government currently provides limited incentives to fleet purchasers of “new energy vehicles” (predominately plug-in electric) under local government control through a pilot program in 20 cities that applies to vehicles made by Chinese automakers. Both domestic and global automakers are considering the introduction of electric vehicles, and a range of micro, medium and full hybrids are currently available.

South America

In Brazil, our largest market in South America, the use of biofuels is widespread as a result of national policy and consumer preference. All gasoline in Brazil is blended with 20 to 25 percent ethanol, and pure ethanol is also widely used. Most new vehicles offered are flexible fuel. While fuel economy and CO_2 emissions are not currently regulated in Brazil, a voluntary fuel-economy labeling program is already in place, along with a star ranking program for light vehicles that favors low-emission, low-CO_2, ethanol, flexible-fuel and hybrid vehicles. Consumers tend to choose vehicles with small engines, and 85 percent of new vehicles purchased have flexible-fuel capabilities. Several hybrid vehicles are currently offered or are planned for introduction to Brazil.

Physical Risks

Global climate change raises the potential for shifting patterns of extreme weather and other risks to our facilities. For insurance purposes, we assess the risks each of our facilities faces (with input from third-party engineers) at least annually. This risk assessment is updated based on new data and takes into account the risk of exposure to hurricanes, tornadoes, other storms, flooding and earthquakes. As a result of this process, we believe we have a good understanding of the physical risks faced by our facilities and how those risks are changing over time.

Extreme weather has the potential to disrupt the production of natural gas, a fuel necessary for the manufacture of vehicles. Supply disruptions raise market rates and jeopardize the consistency of vehicle production. To minimize the risk of production interruptions, Ford has established firm delivery contracts with natural gas suppliers and installed propane tank farms at key manufacturing facilities as a source of backup fuel. Higher utility rates have prompted Ford to revisit and implement energy-efficiency actions that previously did not meet our internal rate of return.

Climate change also has the potential to affect the availability and quality of water. We are examining this issue as part of our water strategy.

Supply Chain Risks

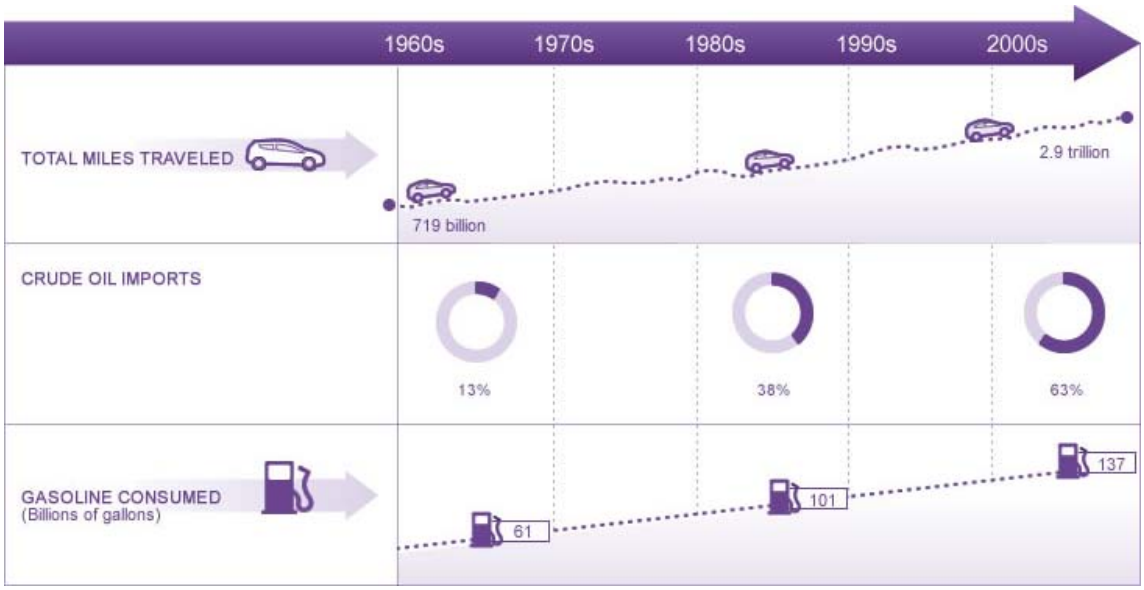
Our suppliers, which are located in more than 60 countries, are subject to market, regulatory and physical risks as a result of GHG regulation and the impacts of climate change. These risks could affect their competitiveness or ability to operate, creating the potential for disruptions to the flow of supplies to Ford. For example, suppliers may be subject to reporting requirements, fees or taxes, depending on where their operations are located. See the Supply Chain section for a discussion of actions we are taking to better understand the climate risks of our suppliers and promote a competitive supply chain.

U.S. Energy Security

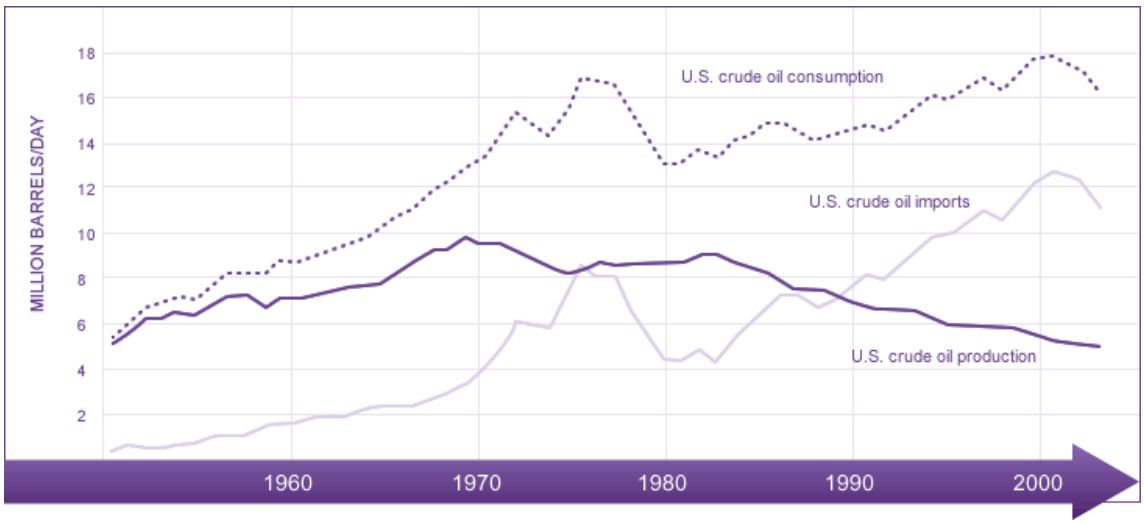
The following charts illustrate the primary issue underlying concerns about U.S. energy security – crude oil consumption is increasing, while domestic energy production is decreasing. Therefore, the U.S. is increasingly reliant on imported crude oil. The first chart shows the increase in the number of miles all U.S. drivers are traveling each year, the increasing percentage of crude oil imports and the increasing consumption of gasoline.

Since the 1970s, the fuel efficiency of new passenger cars more than doubled and fuel economy rates in trucks has increased by 53 percent. This increase is reflected in the chart below, which shows that miles traveled increased by a factor of four while gasoline consumption increased by a little over a factor of two.

The second chart shows the increase in U.S. demand for crude oil and the simultaneous decrease in U.S. crude oil production. Unlike the utility sector, which has a diverse energy portfolio, light-duty transportation is approximately 95 percent reliant on crude oil. This dominance of crude oil, coupled with the growing reliance on foreign countries for supply, is at the core of the U.S. energy security concerns. For example, during the first month after protests began in Libya, U.S. gasoline prices rose almost 15 percent, despite Libya supplying less than 2 percent of global oil and less than 0.5 percent of U.S. oil.



Crude Oil Consumption, Imports and U.S. Production



Our Strategy: Blueprint for Sustainability

To respond to the risks and opportunities posed by the climate change issue, our long-term strategy is to contribute to climate stabilization by:

- Continuously reducing the greenhouse gas (GHG) emissions and energy usage of our operations
- Developing the flexibility and capability to market lower-GHG-emission products, in line with evolving market conditions
- Working with industry partners, energy companies, consumer groups and policy makers to establish an effective and predictable market, policy and technological framework for reducing GHG emissions

Our product plans in all regions are aligned with our overall goal of contributing to climate stabilization. Our blueprint for sustainability, which spells out our technology and product strategy to meet this goal, is based on modeling of vehicle and fuel contributions to emission reductions and an analysis of market and regulatory trends (see figure below).

Product Sustainability Process

The blueprint's product strategy – called the Sustainable Technologies and Alternative Fuels Plan – details steps we are taking in the foreseeable future to develop and deploy vehicle and fuel technologies. The blueprint is supported by our sustainable mobility governance, which establishes structures and accountability for implementing the strategy.

We believe this strategy is already showing results by positioning our Company to take advantage of opportunities created by shifts in markets. We have implemented all of the near-term actions, and our commitment to outstanding fuel economy aligns well with consumer interest in fuel-sipping vehicles. During 2010, for example, our U.S. market share grew for the second year in a row, driven in part by the popularity of several of our vehicles that achieve best-in-class fuel economy.

For the longer term, we are preparing to provide regionally appropriate approaches based on global platforms to advanced vehicle technologies, including electric vehicles, biofuel vehicles and (as fuel and infrastructure become available) hydrogen fuel cell vehicles. In addition, we have conducted dialogues with stakeholders, exploring sustainable mobility projects to demonstrate mobility solutions that meet the needs of urban and rural communities by leveraging information technology to integrate private and public transportation options. Please see the Sustaining Ford section for more details.

Toolbox

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Climate Change Governance

Because the climate change issue is so important to us at Ford, it is managed through governance systems at all levels of the Company. The Sustainability Committee of our Board of Directors regularly reviews Ford's actions related to climate change.

Substantive changes to our plans for addressing climate change – whether relating to our products, facilities or policies – are highlighted and agreed to at the highest levels of Ford's executive management through the Business Progress Review process. Related emerging issues are reviewed as needed in Special Attention Review meetings.

In addition, strategic product direction related to climate change goals is provided by a senior executive committee, made up of vice president and executive stakeholders, who guide the development of the vision, policy and business goals. (See Governance and Management Structures.)

Related executive planning teams are responsible for developing detailed and specific policy, product and technical analyses to meet objectives. These teams base their plans on scientific data and promote actions that will help achieve the Company's environmental ambitions, recognizing the need to use a holistic approach to effectively protect the environment. Metrics have been established and are reviewed regularly to ensure satisfactory progress. We have also developed strategic principles to guide our approach.

Climate Change Strategic Principles

Our approach to greenhouse gas (GHG) stabilization is aligned around the following key strategic principles:

1. Technical, economic and policy approaches to climate change need to recognize that all carbon dioxide (CO_2) molecules (or GHG equivalents) produced by human activities make the same contribution to the atmosphere's concentration of greenhouse gases. Once those molecules reach the atmosphere, they contribute to the greenhouse effect, regardless of the source. However, the cost of reducing those emissions varies significantly depending on their source, and we should attempt to achieve the most economically efficient solutions possible.

2. The transportation sector represents a closely interdependent system, characterized by the equation: "Vehicle + Fuel + Driver = GHG emissions." Each link in this chain depends on the others. For example, vehicle manufacturers can bring to market flexible-fuel vehicles, but successfully reducing GHG emissions with them will depend on fuel companies providing renewable biofuels, as well as consumer demand for the vehicles and fuels.

3. Future developments in technologies, ever-changing markets, consumer demand and political uncertainties require flexible solutions. The business strategies that Ford implements, and the public policies that we encourage, must have the flexibility to succeed in a range of potential scenarios.

4. Early affordable steps to reduce GHG emissions from our products and processes may delay the need for drastic and costly reductions later. Lack of agreement on long-term solutions cannot be used as an excuse to avoid near-term actions.

Ford's Science-Based CO_2 Targets

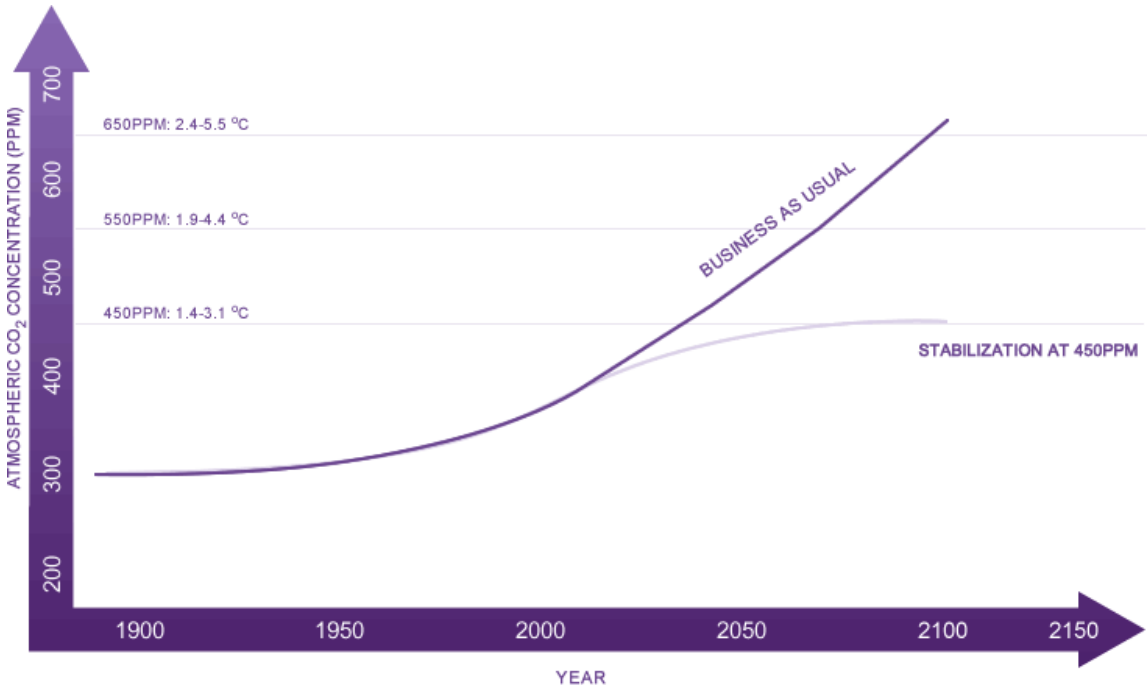
Throughout this report, we refer to Ford's climate goals as "science-based" – specifically, based on the science of climate stabilization. An advantage of this approach is that it gives us an objective, long-term goal focused on an environmental outcome – stabilization of carbon dioxide (CO_2) in the atmosphere. A disadvantage is that the goal can be difficult to explain and communicate. In this section, we delve into our science-based goal by discussing what stabilization means, how we use "glide paths" to align our product plans with emission reductions, and how our "black box" model works and how we use it in our planning.

The stabilization-based goal had its start in 2004, when Ford's internal Climate Change Task Force faced a dilemma. After an extensive study, it was clear to the cross-functional group of senior executives that several forces were converging to fundamentally change vehicle markets, especially in North America and Europe. Current and anticipated greenhouse gas and fuel economy regulation, rising fuel prices and growing consumer awareness of the climate change issue all pointed to a shift in sales toward cars rather than trucks and toward smaller and more fuel-efficient vehicles. We needed to rapidly reorient our product offerings.

But what should drive new product goals? As a practical matter, the Company needed to be able to meet new regulatory mandates. Beyond that imperative, we had taken to heart our responsibility to contribute to meeting the challenge of climate change. So, Task Force members decided to base product planning on the goal of climate stabilization, and they asked Ford's in-house scientists to devise a way to test scenarios for meeting that goal.

Our Stabilization Commitment

Ford researchers have played a leading role in scientific research to understand and quantify the contribution of vehicles to climate change. We have also worked with a variety of partners to understand current and projected manmade GHG emissions and the steps that can be taken to reduce them. Many scientists, businesses and governmental agencies have concluded that stabilizing the atmospheric concentration of CO_2 at approximately 450 parts per million (ppm) may help to forestall or substantially delay the most serious consequences of climate change (see chart below).



Ford has committed to doing our share to stabilize atmospheric CO_2 at 450 ppm. Using a science-based CO_2 model (see A Look Inside the "Black Box"), we have calculated the amount of light-duty vehicle (LDV) CO_2 emissions that are consistent with stabilizing the concentration of CO_2 in the atmosphere at this level. We then calculated the long-term, sustained reductions in the CO_2 emission rate (g/km) from new LDVs that would be needed to achieve 450 ppm atmospheric CO_2, based on projections of vehicle sales and scrappage. Plotting these emission levels over time yields the "CO_2 glide paths" that drive our technology plans.

We have calculated region-specific CO_2 glide paths for North America, Europe, Brazil and China. The glide paths take into account the effects of regional differences in vehicle size and fuel consumption, government regulations and biofuel availability. Although the initial (current) CO_2 emissions rate varies considerably by region, to provide the significant emission reductions needed, all regions need to move toward similar targets. For the light-duty vehicle sector to meet the 450 ppm CO_2 emissions limits, all automakers must reduce their LDV emissions by the same proportion as prescribed by the CO_2 glide paths. We have shared our thinking behind the development of these industry average targets with interested stakeholders and have received positive feedback. We believe that a science-based approach is the right way forward. Ford's sustainability plan is based on these science-based emissions targets. The reductions called for by the glide paths are more aggressive than our previously announced 30 percent reduction goal from 2006 to 2020.

We caution that while our product development plans are based upon delivering long-term reduction in CO_2 emissions from new vehicles similar to those shown for the industry-average glide paths, we anticipate that the year-over-year reductions will vary somewhat from the glide paths. In some years the reductions will be greater than those shown in the glide paths and in other years they will be less. That is because delivering on these targets will be dependent to some degree on market forces that we do not fully control (e.g., changes in energy prices and changes in the mix of vehicles demanded by the consumers in the markets in which we operate). Furthermore, our product strategy is based on multiple inputs, including regulatory requirements, competitive actions and technology plans.

We plan to annually review, and revise where necessary, the assumptions and input data in the CO_2 model. We anticipate that the model will evolve with better understanding over time, and we will report significant changes in future reports.

Climate change is a long-term challenge that demands long-term solutions. We believe a philosophy of continuous improvement implemented over the long term is the correct solution to this challenge. Following the CO_2 reductions called for in our glide path assessment is a significant challenge. It is a commitment that we do not undertake lightly. However, we believe that dramatic reductions in CO_2 emissions are required over the long term to forestall or substantially delay the most serious consequences of climate change, and we are committed to doing our part.

As illustrated in the table below, we have already made significant progress in improving the fuel economy, and hence reducing the CO_2 emissions, from our vehicles.

Nameplate Fuel Economy Improvement Summary

	2001 MY	2011 MY	% FE Improvement (Unadjusted Combined)
FOCUS			13.5[1]
ESCAPE			12.4[2]
EXPLORER			30.8[3]
F-150			12.4[4]

1. Wagon excluded.
2. Hybrids excluded.
3. Explorer Sport, Sport Trac and ethanol-fueled versions excluded.
4. Natural gas, alternative-fueled, bi-fueled and supercharged vehicles excluded.

In 2010, we applied the CO_2 glide path methodology to develop CO_2 targets for our commercial vehicles and facilities. We plan to review our glide path analysis, and update it as appropriate, to incorporate new developments in climate science, new forecasts for vehicle sales and future changes in the CO_2 intensity of fuels (e.g., increased use of biofuels, or oil from tar sands). Any significant changes to the glide path will be discussed in future Sustainability Reports.

To explore which vehicle and fuel technologies might be most cost-effective in the long-term stabilization of atmospheric CO_2 concentrations, we have worked with colleagues at Chalmers University in Gothenburg, Sweden. Specifically, they have assisted us in including a detailed description of light-duty vehicles in a model of global energy use for 2010 to 2100. Nine technology cost cases were considered. We found that variation in vehicle technology costs over reasonable ranges led to large differences in the vehicle technologies utilized to meet future CO_2 stabilization targets. We concluded that, given the large uncertainties in our current knowledge of future vehicle technology costs, it is too early to express any firm opinions about the future cost-effectiveness or optimality of different future fuel and vehicle powertrain technology combinations.[1] This conclusion is reflected in the portfolio of fuel and vehicle technologies that are included in our sustainability strategy. We are continuing to develop the global energy model

with researchers at Chalmers. We believe the model will provide valuable insights into cost-effective mobility choices in a future carbon-constrained world.

A Look Inside the "Black Box": The Science Behind Our Scientific Approach

In 2005, Ford's scientists began development of a carbon dioxide (CO_2) model. To create it, they modified the Sustainable Mobility Project model (developed by the International Energy Agency) and combined it with global CO_2 emission-reduction pathways for varying levels of atmospheric CO_2 stabilization (as described by the Model for the Assessment of Greenhouse-Gas-Induced Climate Change, developed by the National Center for Atmospheric Research). The scientists then calculated the CO_2 emission reductions required of new light-duty vehicles up to the year 2050 for a range of CO_2 stabilization levels and different regions of the world, using a simplifying assumption that the rates of CO_2 emission reductions should be the same across all sectors.

At the lower CO_2 stabilization levels, the required emission reductions are extremely challenging and cannot be accomplished using vehicle technology alone. Joint investigations with BP provided insight into how the best new vehicle technologies and low-carbon alternative fuels can jointly and realistically fulfill the low-CO_2 emission requirements. Ford's CO_2 model and other modeling tools were combined to explore assumption sensitivities around vehicle technologies, baseline fuels and biofuels.

The CO_2 model is not intended to provide "the answer," but rather a range of possible vehicle and fuel solutions that contribute to a pathway to CO_2 reductions and, eventually, climate stabilization. Our blueprint for sustainability – and the technology and product actions it spells out – is based on options developed through this modeling exercise.

The model and its results have been a centerpiece of discussions with a variety of stakeholders. Below are some of the questions that have been raised through these discussions, and the answers to them.

How does the model account for emissions growth or reduction in developing countries?

We recognize that developing countries generally have relatively low per-capita energy use but high rates of emissions growth, reflecting growing economies. The CO_2 model uses a science-based approach that allows for growth in developing countries, to derive CO_2 reduction targets for light-duty vehicles consistent with a 450 parts per million (ppm) CO_2 stabilization pathway.

Since fuel use is the dominant cause of CO_2 emissions, how does the model account for projected changes in the carbon footprint of automotive fuels?

Ford has studied multiple scenarios in which the auto industry and the energy industry work together to reduce overall well-to-wheels CO_2 emissions from the light-duty transportation sector. These joint strategy scenarios (see figure below) allow us to develop a least-cost vehicle technology roadmap. For the carbon footprint of fuels, we rely on the well-to-tank CO_2 emissions for different alternative fuels estimated by different region-based models, including the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) model for North America, and the EUCAR/JRC/CONCAWE analysis for Europe.

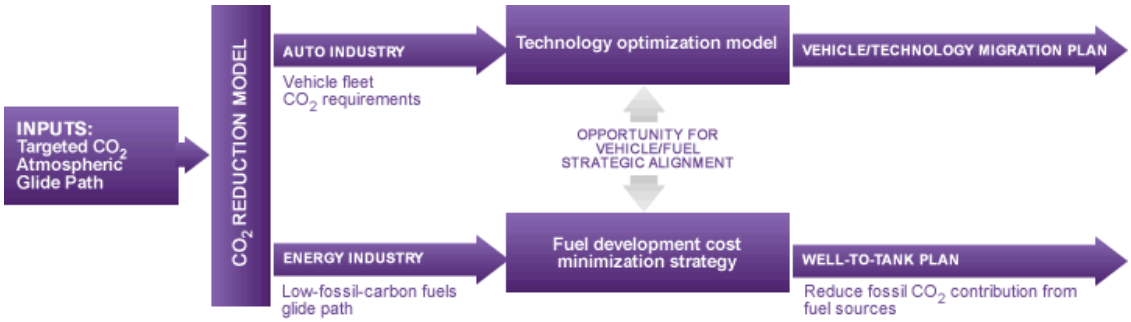
Are you continuing to test alternative scenarios?

In the long run, the roles of consumers, governments and fuel availability will be pivotal in dictating actual CO_2 emission reductions, and Ford continues to take them into consideration in fine-tuning a truly viable and sustainable CO_2 stabilization pathway.

How does the model consider the cost of technologies and alternative fuels?

In a separate study (and as discussed above), Ford and our partner Chalmers University have developed a global energy model that looks into minimal-cost scenarios across different sectors and explores assumption sensitivities around vehicle technologies, fuel technologies, connections between the different energy sectors, and biofuels. The model provides information on the combinations of options that will yield the necessary emissions reductions at an affordable cost to consumers. We have used this model to develop scenarios to assess the global lowest-cost vehicle and fuel technology solutions consistent with CO_2 stabilization.

Ford's Sustainability Framework and Technology Migration Development



1. M. Grahn, M.I. Williander, J.E. Anderson, S.A. Mueller, T.J. Wallington, "Fuel and Vehicle Technology Choices for Passenger Vehicles in Achieving Stringent CO_2 Targets: Connections between Transportation and Other Energy Sectors," *Environ. Sci. Technol.* 43, 3365 (2009).

Toolbox

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Ford's Sustainable Technologies and Alternative Fuels Plan

IN THIS SECTION

Overview of Our Plan

To meet our science-based climate stabilization goal, we are implementing our plan to significantly improve the fuel economy of our global product portfolio and enable the use of alternative fuels.

READ MORE

A Portfolio Approach

Ford is taking a portfolio approach to developing sustainable technologies and alternative fuel options. Our goal is to provide consumers with a range of different options that improve fuel economy and overall sustainability while still meeting individual driving needs.

READ MORE

Improving Fuel Economy

This section outlines our plans for improving the fuel economy of traditional gasoline and diesel engines. These actions include implementing advanced engine and powertrain technologies, improving aerodynamics and reducing weight.

READ MORE

Migration to Alternative Fuels and Powertrains

Our plans for migrating to alternative fuels and powertrains include implementing vehicles that run on renewable biofuels, increasing advanced clean diesel technologies, increasing our hybrid vehicle applications and introducing battery electric vehicles and plug-in hybrids. We are also working to advance hydrogen fuel cell vehicle technologies.

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Ford's Green Partnerships with Federal and State Governments

Ford is working with federal and state governments to advance the development and commercialization of technologies that improve fuel efficiency and increase the use of alternative fuels and powertrains.

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Overview of Our Plan

Our sustainable technologies and alternative fuels plan, mapped out in 2007, is our route to improving the fuel economy and cutting the CO_2 emissions of our products around the world. We have completed the near-term actions and are currently implementing the mid-term actions.

✓ indicates stage completed

2007 NEAR TERM Begin migration to advanced technology	2011 MID TERM Full implementation of known technology	2020–2030 LONG TERM Continue leverage of hybrid technologies and deployment of alternative energy sources
✓ Significant number of vehicles with EcoBoost engines	EcoBoost engines available in nearly all vehicles	Increased percentage of internal combustion engines using renewable fuels
✓ Electric power steering	Electric power steering – high volume	Volume expansion of hybrid technologies
✓ Dual-clutch and six-speed transmissions replace four- and five-speeds	Six-speed transmissions – high volume	Cotninued leverage of plug-in hybrid and battery electric vehicles
✓ Flexible-fuel vehicles	Weight reduction of 250–750 lbs.	Introduction of fuel cell vehicles
✓ Additional hybrid applications	Engine displacement reduction facilitated by weight reductions	Clean electric/hydrogen fuels
✓ Increased unibody applications	Additional aerodynamics improvements	Continued weight reduction through use of advanced materials
✓ Introduction of additional small vehicles	Increased use of hybrids	
✓ Battery management systems	Introduction of battery electric and plug-in hybrid vehicles	
✓ Aerodynamics improvements	Vehicle capability to fully leverage available renewable fuels	
✓ Stop/start systems (micro hybrids)	Diesel use as market demands	
✓ CNG/LPG prep engines available in select markets	Increased application of stop/start	

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A Portfolio Approach

In the very early years of our industry, automotive engineers experimented with a variety of methods for powering vehicles, including electricity and biofuels. The internal combustion engine using petroleum-based gasoline and diesel rose to the top fairly quickly, and has been the standard vehicle power source for the past 100 years. Reminiscent of those early years, we are now in a period of intense experimentation and adoption of new vehicle technologies and fuels. This time, however, there may be no single winner in the race for the vehicle of the future.

That is why Ford is taking a "portfolio approach" to developing sustainable technologies and alternative fuel options. Our goal is to provide diversity in fueling options, in order to meet customers' differing needs, while improving vehicle energy efficiency and long-term sustainability. We are thus providing customers with a range of affordable, fuel-efficient vehicles, advanced powertrains and alternative-fueled vehicle options.

We also believe that traditional gasoline- and diesel-powered vehicles with internal combustion engines will continue to be a major part of the mix for quite some time. So we are working to improve the fuel efficiency of the engines and transmissions of our current vehicles, along with every vehicle subsystem. For example, we are introducing fuel-saving technologies like our EcoBoost™ engines and efficient six-speed transmissions across a wide range of our traditional gasoline vehicle lineup.

Most importantly, we are developing global vehicle platforms that are compatible with a wide range of fuels and powertrain technologies. This allows us to offer a portfolio of options to our customers, target options to regions where they make the most sense and evolve our vehicles as technologies and markets develop. Global platforms that have "plug-and-play" compatibility with a wide range of technologies will also allow us to make the range of fuel and powertrain options available more affordably. For example, in the next three years we will be introducing an all-electric Ford Focus, a next-generation hybrid electric Ford C-MAX, and the C-MAX Energi plug-in hybrid – all built on our global C-platform.

Also, we currently produce 17 flexible-fuel vehicle models across our global markets that can run on either regular gasoline or E85 (a blend of 85 percent ethanol and 15 percent gasoline). Though biofuels are not available in every market, they are widely available in the U.S. and South America, and in some parts of Europe, so it makes sense for us to provide this option to customers who can take advantage of it. In addition, biofuel availability is expected to increase globally. In Europe, the EU's Renewable Energy Directive mandates that 10 percent of energy in the transportation sector must come from renewable fuels by 2020. In the U.S., the Renewable Fuel Standard requires annual increases in the volume of renewable fuels, reaching 36 billion gallons by 2022. Ford's flexible-fuel vehicles, which are provided at no or low additional cost, allow consumers to choose fuels based on availability and price.

We are also making engines that can be converted to run on compressed natural gas (CNG) and liquefied petroleum gas (LPG) available on select vehicle models. And, we are working with qualified vehicle modifiers to ensure that conversion to those fuels meets our quality, reliability and durability requirements. For example, we recently announced that the new Ford Transit Connect, which went on sale in the U.S. in early 2010, is available with a CNG/LPG conversion-ready engine package. Our F-Series trucks and E-Series vans are also available with a propane-ready engine. In Europe, we offer CNG and LPG conversions of various models in markets with a dedicated infrastructure, such as Italy, Germany and France.

CNG and LPG are particularly good options for fleet customers, such as taxi companies and delivery services, that use a central refueling system. In addition, CNG and LPG are widely available as vehicle fuels throughout South America and Europe. We are delivering CNG/LPG-ready engines to provide another lower-carbon option to those customers for whom this option makes sense.

As noted above, we are also developing a range of electrification technologies, including all-electric, hybrid electric and plug-in hybrid electric vehicles. Our vehicle electrification strategy is based on providing customers with a variety of vehicle choices to meet their driving needs. To read more about this strategy, please see Electrification: A Closer Look. All-electric and plug-in hybrid vehicles may initially make the most sense for urban drivers and fleet users who have daily commutes under 40 miles. However, as battery and recharging options continue to advance, we expect these vehicles to work for a wider range of our customers.

In the longer term, hydrogen may emerge as viable alternative fuel. Hydrogen has the potential to diversify our energy resources and lower lifecycle greenhouse gas emissions, if low-carbon hydrogen production becomes feasible. To prepare for this, we are developing technology to power vehicles with hydrogen fuel cells. In addition, we are working to pair hydrogen fuel cell technology with vehicle electrification technologies to maximize the sustainability benefits of both technologies.

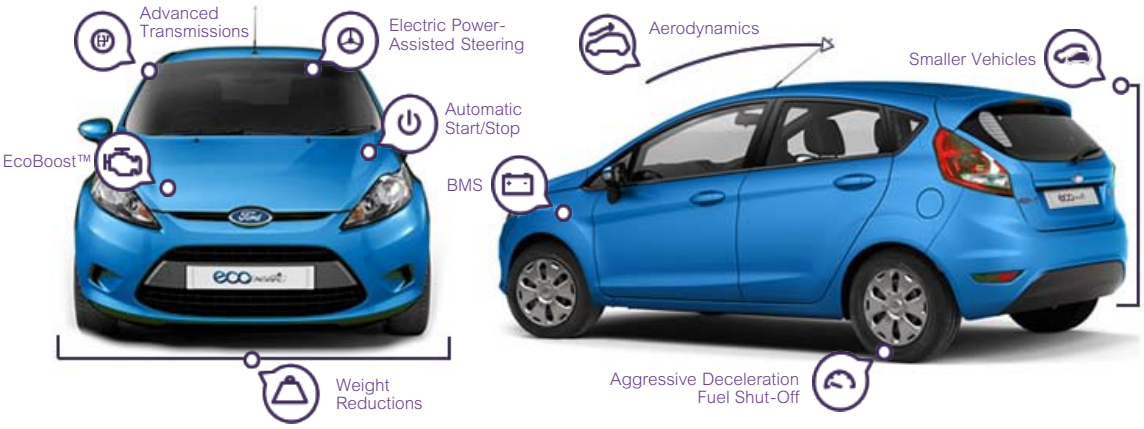
Related Links

This Report:

- Electrification: A Closer Look

This section describes our current actions and future plans to develop a wide range of energy-efficient technologies, alternative fuels and advanced powertrain technologies that will give our customers near-, mid- and longer-term options for more sustainable vehicles.

Improving Fuel Economy



This section outlines our plans for improving the fuel economy of traditional gas and diesel engines. These actions include implementing advanced engine and transmission technologies, weight reductions and aerodynamic improvements, as well as increasing the efficiency of vehicle sub-systems.

For more information about each of our fuel efficiency technologies please click on the icons in the graphic above.

EcoBoost™

✓ indicates stage completed

2007	2011	2020	2030
NEAR TERM	**MID TERM**	**LONG TERM**	
Begin migration to advanced technology	Full implementation of known technology	Continue leverage of hybrid technologies and deployment of alternative energy sources	
✓ Significant number of vehicles with EcoBoost engines	■ EcoBoost engines available in nearly all vehicle nameplates	■ Increase percentage of internal-combustion engines dependent on renewable fuels	

The centerpiece of our near-term fuel-economy improvement efforts is the EcoBoost engine, which uses turbocharging and direct injection along with reduced displacement to deliver significant fuel-efficiency gains without sacrificing engine power or vehicle performance. EcoBoost engines help to improve vehicle fuel economy 10 to 20 percent and reduce carbon dioxide (CO_2) emissions up to 15 percent compared to larger-displacement engines.

EcoBoost offers better value than many other advanced fuel-efficiency technologies. Due to its affordability relative to competing powertrain options, and its compatibility with most of the gas-powered vehicles we produce, we are able to migrate EcoBoost's fuel-economy benefits throughout our product lineup more quickly and to a greater number of our customers. Our rapid deployment of EcoBoost in high volumes across a wide array of our vehicle nameplates is also helping us make a dramatic step forward in CO_2 emission reductions.

EcoBoost was first introduced in North America as a 3.5L V6 engine on the 2010 Lincoln MKS, Lincoln MKT, Ford Taurus SHO and Ford Flex. This engine provides similar performance to a normally aspirated V8 engine, but with the fuel economy of a V6. Thanks largely to EcoBoost technology, the V6 Ford Taurus SHO and Lincoln MKT deliver unsurpassed fuel economy in their respective segments.

EcoBoost has thus far proven to be a great success. For example, EcoBoost is influencing many consumers to consider and buy Ford vehicles who were not previously Ford customers. In other words, it is increasing Ford's "conquest rate" – i.e., the number of customers who are switching from other manufacturers to buy Ford vehicles. The Taurus SHO with EcoBoost now has the highest conquest rate in its segment, and the Flex EcoBoost has a more than 65 percent conquest

rate after two years on sale. EcoBoost is proving especially attractive to 35- to 55-year-old males, an important demographic that has been less likely to purchase Ford vehicles in the past.

In addition to these commercial successes, the EcoBoost engine has received multiple awards, including the "Breakthrough" award from *Popular Mechanics* and a "10 Best Engines" award from *Ward's*.

We continue to expand the application of EcoBoost technology to more engine types and vehicles. In 2010 and 2011, for example:

- We introduced the 3.5L V6 EcoBoost on the Ford F-150. The F-150 with EcoBoost is the most fuel-efficient pickup truck in its class, with a rating from the U.S. Environmental Protection Agency of 16 mpg city and 22 mpg highway.[1] The new F-150 also has best-in-class torque, payload and towing capacity.
- We also introduced a 2.0L EcoBoost engine, which is the first in the EcoBoost lineup to go truly global.
    - In the U.S., we will be introducing the 2.0L I-4 EcoBoost on the 2012 Ford Edge and the all-new 2012 Ford Explorer and 2012 Ford Focus. These are the first four-cylinder EcoBoost engines available in the U.S. The Edge and Explorer with the 2.0L I-4 EcoBoost are expected to deliver best-in-class fuel economy, with the performance feel of a traditional V6. The Explorer will feature fuel economy at least 20 percent better than the current model. We are also introducing the first high-performance vehicle with an EcoBoost engine – the Ford Focus ST, a special high-performance version of the Focus.
    - In Europe, we introduced the Ford S-MAX and Galaxy with a 2.0L EcoBoost option.
    - In China, we launched the 2.0L EcoBoost engine on the Ford Mondeo.
    - In 2011, we will introduce the 2.0L EcoBoost on the Mondeo followed by the Falcon in 2012 in Australia.
- We debuted a 1.6L I-4 EcoBoost on the 2011 Ford C-MAX in Europe. This engine is also now available in the all-new Ford Focus European version, and we plan to offer it in the 2013 Ford C-MAX, which will be available in the U.S.
- We revealed a 1.0L three-cylinder EcoBoost engine at the Paris Auto Show in 2010. This engine delivers the power of a 1.6L I-4 with better fuel economy. We plan to introduce it for use in Europe and other global markets.

These EcoBoost engines illustrate Ford's plans to use smaller-displacement, power-boosted engines to deliver improved fuel economy and performance throughout our vehicle lineup.

By 2013, Ford plans to offer EcoBoost engines on 85 to 90 percent of our North American and European nameplates and continue to migrate them to our other regions.

1. The F-150's fuel efficiency is compared to other high-volume pickup trucks, not including low-volume special fuel-economy models.

Advanced Transmissions

✓ indicates stage completed

2007	2011	2020 – 2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources
✓ Dual-clutch and six-speed transmissions begin replacing four- and five-speeds	■ Full implementation of six-speed transmissions	

To further improve the fuel economy of our vehicles, we are implementing a dual-clutch transmission system called PowerShift. PowerShift combines manual and automatic transmission technologies to deliver the fuel efficiency of a manual with the driving ease of an automatic. It uses six speeds instead of the four or five on most automatics, which further increases fuel efficiency. PowerShift technology increases fuel efficiency by up to 9 percent compared to traditional four-speed automatic transmissions, depending on the application.

A "wet clutch" version of this technology has already been implemented in Europe on the Ford Focus, C-MAX, Kuga, S-MAX, Galaxy and Mondeo, in combination with a 2.0L Duratorq® TDCi diesel. The wet clutch version is also the standard transmission for the new 2.0L EcoBoost™ engine on the Ford Mondeo, S-MAX and Galaxy.

A "dry clutch" version was introduced in North America in April 2010 on the all-new Ford Fiesta and subsequently on the new Ford Focus in November 2010. The dry clutch version gets even better gas mileage. Unlike wet clutch systems, the dry PowerShift transmission does not use an oil pump, making the system more efficient with the same weight as a traditional four-speed automatic transmission.

We are also introducing conventional six-speed transmissions to replace less-efficient four- and five-speed transmissions in a range of vehicles, including the new Super Duty® with 6.2L and 6.7L engines and all of the Ford Mustang, F-150 and new Explorer powertrain options. Six-speed transmissions improve fuel economy by up to 5 percent compared to typical four- and five-speed gearboxes; they also provide better acceleration, smoother shifting and a quieter driving experience. By the end of 2012, 98 percent of Ford's North American transmissions will be advanced six-speed gearboxes. And by 2013, we plan to offer advanced six-speed transmissions – both PowerShift and conventional six-speed technology – on 100 percent of our new, non-hybrid vehicles in Europe and North America and many new vehicles in other regions.

In the near term we are improving the performance of our PowerShift and conventional transmissions by further optimizing their operation with EcoBoost engines and reducing parasitic losses, such as mechanical friction and unnecessary hydraulic and fluid pumping, to achieve higher operating efficiency. In the longer term we will be researching advanced transmission concepts to support further engine downsizing and electrification.

Electric Power-Assisted Steering (EPAS)

✔ indicates stage completed

2007	2011	2020	2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources	
✔ Electric power steering	■ Full implementation of electric power steering		

We are phasing in electric power-assisted steering technology, which typically will reduce fuel consumption and decrease carbon dioxide emissions by up to 3.5 percent over traditional hydraulic systems, depending on the vehicle and powertrain application. On the 1.4L Duratorq® diesel Ford Fiesta, for example, which is available in Europe, EPAS provides a 3–4 percent improvement in fuel efficiency compared with a hydraulic-based power steering system. By combining EPAS with aerodynamic improvements, we improved the mileage of this vehicle by approximately 8 percent compared to the previous model year. In addition, EPAS supports other fuel-saving activities we plan to introduce. For example, "automatic start/stop" technology can be introduced without degrading steering assist to the driver. (For details on this technology, see Automatic Start/Stop.)

In 2010 and 2011, we added EPAS to the all-new Ford Explorer, Ford F-150, Ford Mustang and Lincoln MKZ hybrid in North America, as well as the new Ford C-MAX and Focus in North America and Europe. This adds to our existing lineup of vehicles with EPAS – the Ford Fusion, Flex, Taurus and Escape and the Lincoln MKS and MKT in North America, as well as the Ford Fiesta and Ka in Europe. Ultimately, we will introduce EPAS into all of our passenger cars and light-duty vehicles.

Automatic Start/Stop

✔ indicates stage completed

2007	2011	2020	2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources	
✔ Start/stop systems (micro hybrids)	■ Increased application of start/stop systems		

We have developed a "start/stop" technology that shuts down the engine when the vehicle is stopped and automatically restarts it before the accelerator pedal is pressed to resume driving. This technology maintains the same vehicle functionality as a vehicle without the technology, but it improves city driving fuel economy by up to 6 percent. The gain can be as high as 10 percent for some drivers, depending on vehicle size and usage. The technology can also reduce tailpipe emissions to zero while the vehicle is stationary, for example when waiting at a stoplight.

Start/stop technology includes sensors to monitor functions such as cabin temperature, power supply state and steering input, so that vehicle functioning remains exactly the same to the driver as when the engine remains on continuously. If the system senses that a vehicle function has been reduced and will negatively impact the driver's experience, the engine will restart automatically.

Start/stop technology is already being used in our hybrid vehicles and will eventually provide a cost-effective way to improve fuel efficiency on a large volume of non-hybrid vehicles. In the U.S., we are planning to introduce the technology into non-hybrid vehicles in 2012. When it debuts in the U.S. it will be available on automatic transmission vehicles, including those with fuel-efficient six-speed automatic transmissions. In Europe, automatic start/stop is already standard on the

Ford Ka and certain versions of the Mondeo, S-MAX and Galaxy. It is launching in 2011 on the Ford Focus, C-MAX and Grand C-MAX. By 2016, 90 percent of our vehicle nameplates globally will be available with start/stop technology.

Weight Reductions

✓ indicates stage completed

2007	2011	2020 – 2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources
✓ Increased unibody applications	■ Weight reductions of 250–750 lbs	■ Continue weight reductions using advanced materials

We are also working to improve fuel economy by decreasing the weight of our vehicles – in particular by increasing our use of unibody vehicle designs, lighter-weight components and lighter-weight materials.

Unibody vehicle designs reduce weight by eliminating the need for the body-on-frame design used in truck-based products. Unibody-based crossover vehicles provide many of the benefits of truck-based SUVs, such as roominess, all-wheel drive and higher stance, with significantly reduced total vehicle weight. The all-new 2011 Ford Explorer uses a lightweight unibody design, as do the current Ford Edge and Lincoln MKX crossovers.

EcoBoost™ engine technology allows us to use a smaller, lighter-weight engine system while delivering more power and better fuel economy. Similarly, the dual-clutch PowerShift system weighs up to 30 pounds less than the four-speed automatic transmission it is replacing.

The lighter-weight materials we are using include advanced high-strength steel, aluminum, magnesium, natural fibers and nano-based materials. These “lightweighting” efforts can reduce the weight of our vehicles by 250 to 750 pounds, without compromising vehicle size, safety, performance or customer-desired features. The following are examples of our use of lighter-weight materials:

- The 2010 Lincoln MKT crossover has an advanced lightweight magnesium and aluminum liftgate.
- We use an aluminum hood on the Ford F-150 and high-strength, lighter-weight steels in more than 50 percent of the F-150 cab.
- The 2011 Ford Explorer makes extensive use of high-strength steels. Nearly half of the vehicle’s structure – including the A-pillars, rocker panels and front beams – are comprised of high-strength steels, such as boron.
- In the 2012 Ford Focus, more than 55 percent of the vehicle shell is made from high-strength steel and more than 26 percent of the vehicle’s structure is formed from ultra-high-strength boron steels. The Focus combines these high-strength steels with innovative manufacturing methods to further reduce weight. For example, the vehicle’s B-pillar reinforcement, a key structural part, is made from ultra-high-strength boron steel that has been produced using an innovative tailor-rolling process. The process allows the thickness of the steel sheet to be varied along its length, so the component has increased strength in the areas that are subjected to the greatest loads. The tailor-rolled B-pillar has eight different gauge thicknesses, to improve side-impact crash performance while saving more than three pounds per vehicle.
- We are also expanding our use of aluminum engine parts and all-aluminum engines. The 2011 Mustang, for example, has an aluminum engine. Combined with other fuel-efficiency improvements, this lighter-weight engine delivers class-leading fuel economy at 19 mpg city/30 mpg highway with a six-speed automatic transmission – a 25 percent improvement over the 2010 model.

Please see the Environment section for further information on materials-based weight reductions.

Battery Management Systems (BMS)

✓ indicates stage completed

2007	2011	2020 – 2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources
✓ Introduction of battery management systems		

Electrical systems are another area in which we are making progress. By reducing vehicle electrical loads and increasing the efficiency of the vehicle's electrical power generation systems, we can improve fuel efficiency. Our battery management systems, for example, control the power supply system (in particular the alternator) to maximize the overall efficiency of the electrical system and reduce its negative impacts on fuel economy. This is accomplished by maximizing electricity generation during the most fuel-efficient situations, such as vehicle deceleration. In less fuel-efficient situations, the alternator's electricity generation is minimized to conserve fuel. BMS has already been launched in Europe on the Ford Focus and Mondeo and in the U.S. beginning with the 2011 Ford Edge, Explorer and F-150, the 2011 Lincoln MKX, and the 2012 Ford Focus. We have also introduced more-efficient alternators, which improve fuel economy.

Agressive Deceleration Fuel Shut-Off

✓ indicates stage completed

2007	2011	2020	2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources	
✓ Begin implementing ADFSO	■ ADFSO at high volume		

We are deploying Aggressive Deceleration Fuel Shut-Off technology to improve fuel efficiency. ADFSO allows fuel supply to the engine to be shut off during vehicle deceleration and then automatically restarted when needed for acceleration or when the vehicle's speed approaches zero. This new system builds on the Deceleration Fuel Shut-Off technology available in our existing vehicles by extending the fuel shut-off feature to lower speeds and more types of common driving conditions, without compromising driving performance or non-carbon dioxide emission reductions.

This improved fuel shut-off will increase fuel economy by an average of 1 percent. An additional benefit of the ADFSO technology is increased deceleration rates, which should extend brake life and improve speed control on undulating roads.

Starting in 2008 this technology was implemented on the Ford Flex, F-150, Expedition and Escape and the Lincoln MKS and Navigator. We are continuing to implement it as we bring out new vehicles. For example, the 2011 Ford Edge, Ford Explorer and Lincoln MKX use ADFSO. The ADFSO technology will be a standard feature in all of our North American vehicles by 2015, and we will continue to expand implementation globally.

Aerodynamics

✓ indicates stage completed

2007	2011	2020	2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources	
✓ Aerodynamic improvements	■ Additional aerodynamic improvements		

We are optimizing vehicle aerodynamics to improve the fuel economy of our global product lineup. Using a systems engineering approach that integrates aerodynamics in an interdisciplinary and collaborative design and development processes with other fuel-economy technologies, we maximize the fuel efficiency of every vehicle we develop. During the development process, we use advanced computer simulations and optimization methods coupled with wind-tunnel testing to create vehicle designs that deliver up to 5 percent better fuel economy. In addition, we are developing simulation systems that allow us to replicate on-the-road driving conditions during the virtual design phase, to further improve the real-world benefits of aerodynamic improvements.

Using these approaches, we made significant improvements in aerodynamics in 2010. For example:

- In North America, we improved the fuel efficiency of Ford's midsize family sedans, including the 2010 Ford Fusion and Lincoln MKZ, by reducing aerodynamic drag by 5 percent. We accomplished this by further streamlining the exterior design and lowering the vehicles' ride height. These aerodynamic improvements were a key enabler for the Ford Fusion Hybrid's 41 mpg rating, which makes it the most fuel-efficient midsize sedan available in North America.[1]
- We have also reduced the aerodynamic drag of the 2010 Mustang by 4 percent for the V6 model and 7 percent for the V8 model. These aerodynamic improvements resulted in a 0.5

mpg and 1 mpg improvement in fuel economy at 70 mph cruising speeds, for the V6 and V8 models respectively.

- We improved the fuel economy of the 2011 Ford Edge and Lincoln MKX compared to the 2010 models in part through aerodynamic improvements, including underbody shielding, tire spoilers and optimized grille openings that reduce excess airflow to the engine compartment, thus reducing drag. The 2011 Edge and MKX have best-in-class fuel economy in their segments.
- In the 2011 Ford Explorer, we improved fuel economy by almost 1 mpg at highway speeds by coordinating the design of the front-mounted air dam and the rear roof-mounted spoiler.

For 2011, we are continuing to build on these improvements. For example, aerodynamic improvements helped the 2011 Ford Fiesta SFE achieve a U.S. Environmental Protection Agency-rated 40 mpg. Also in 2011, we introduced an "active grille shutter" technology that reduces aerodynamic drag by up to 6 percent, thereby increasing fuel economy and reducing carbon dioxide (CO_2) emissions. When fully closed, the reduction in drag means that the active grille shutter can reduce CO_2 emissions by 2 percent. This technology was implemented first on our European vehicles; in the U.S. the 2012 Ford Focus is the first vehicle to use it. Through that technology and other design improvements, we have significantly reduced the drag coefficient on the all-new 2012 Focus four-door to 0.297 from the current model's 0.320. Optimized aerodynamics also helps reduce wind noise in the Focus.

1. Midsize sedan segment based on the R.L. Polk segment definition.

Smaller Vehicles

✓ indicates stage completed

2007	2011	2020	2030
NEAR TERM Begin migration to advanced technology	**MID TERM** Full implementation of known technology	**LONG TERM** Continue leverage of hybrid technologies and deployment of alternative energy sources	
✓ Introduction of additional small vehicles	■ Engine displacement reductions facilitated by weight savings		

Smaller vehicles provide consumers with another way to get better fuel economy. We are launching more small cars to provide more fuel-efficient options. For example:

- We are introducing subcompact vehicles commonly referred to as "B-cars." These include the all-new Ford Fiesta, which was introduced in Europe in 2008, the Asia Pacific region in 2009 and the Americas in 2010.
- We are introducing a wide range of new vehicles in the U.S. and other markets based on our global "C-platform," or compact sedan. At the 2011 North American Auto Show we showcased 10 new vehicles based on this C-platform, most of which will be available in the U.S. in the next few years. In 2011 we are introducing the next-generation global Ford Focus to North America. This vehicle includes the first in a series of powertrain technology developments that will give our C-car segment offerings a combination of power, performance and unsurpassed fuel economy. For example, the Focus will be equipped with a responsive, fuel-efficient, 2.0L I-4 engine with twin independent variable camshaft timing and direct injection, plus a dual-clutch PowerShift transmission. We will also offer a battery electric version called the Focus Electric. In addition, we are introducing the Ford C-MAX in the U.S., a multi-activity vehicle based on our C-platform. This vehicle will also ultimately include a hybrid and plug-in hybrid version.
- We brought the European Transit Connect small commercial van to North America. This vehicle fills an unmet need in the U.S. market by offering the large cargo space that small business owners need in a fuel-efficient, maneuverable, durable and flexible vehicle package.

We also loaded these smaller vehicles with features and options commonly found on larger or luxury vehicles to make them attractive, thus encouraging customers to choose more fuel-efficient cars and trucks.

All of these smaller vehicles illustrate Ford's actions to provide consumers with a wider range of fuel-efficient options, as well as our efforts to leverage the best of our global products to offer new choices to customers in all of our regions worldwide.

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At Ford, our plans for migrating to alternative fuels and powertrains include implementing vehicles that run on renewable biofuels, increasing advanced clean diesel technologies, increasing our hybrid vehicle applications and introducing battery electric vehicles and plug-in hybrids. We are also working to advance hydrogen-powered vehicle technologies.

For more information on our plans regarding each of these alternative fuels and powertrain technologies, please click on the Ford vehicles above.

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Advanced Clean Diesel

Ford Fiesta ECOnetic

Modern diesels are 30–40 percent more fuel efficient than gasoline vehicles. Ford offers a range of advanced diesels in Europe under the ECOnetic label. In the U.S., Ford introduced a new diesel engine on the 2011 F-Series Super Duty® truck that has 20 percent better fuel economy than the outgoing model.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Advanced Clean Diesel

Modern diesels offer some significant advantages over traditional gasoline engines. They consume 30 to 40 percent less fuel, and on a well-to-wheels basis they emit 15 to 30 percent less carbon dioxide (CO_2).[1] In addition, direct-injection diesel engines provide exceptional power and torque, resulting in better driving performance and towing capabilities.

In Europe, diesel-powered vehicles account for more than 50 percent of new vehicle sales and make up approximately 30 percent of the total vehicle fleet on the road. Ford continues to improve its strong lineup of fuel-efficient and clean diesel vehicles in Europe. For example, we continue to introduce ECOnetic versions of Ford models that deliver improved fuel economy and emissions. The ECOnetic lineup currently includes versions of the Ford Fiesta, Focus, Mondeo and Transit. Several of the ECOnetic models use diesel engines, which meet the stringent Euro 5 emissions standards and emit less than 100 g/km of CO_2. For example, the Fiesta ECOnetic has fuel economy of 3.7 liters/100 km and emits just 98 g/km of CO_2. This vehicle is powered by a specially calibrated version of the 95-horsepower PowerShift 1.6L Duratorq TDCi, combined with a coated diesel particulate (soot) filter.

In the North American medium-duty truck market, diesel engines account for more than 50 percent of sales. In response to this demand, Ford introduced an all-new 2011 F-Series Super Duty® truck with a state-of-the-art diesel engine, new six-speed transmission and urea/selective catalytic reduction after-treatment system. The 6.7L Power Stroke® V8 diesel is cleaner and has 20 percent better fuel economy, 14 percent more power and 23 percent more torque relative to the outgoing model.

This new diesel engine also meets the U.S. Environmental Protection Agency's and the California Air Resources Board's strict 2010 heavy-duty truck emission regulations, which require 80 percent lower NOx emissions than the 2007 regulations. The new Super Duty uses a range of advanced technologies to meet the new regulations. For example, its 6.7L Power Stroke engine employs an innovative exhaust gas recirculation system with two independent cooling loops, which enable optimal combustion phasing for fuel economy while reducing NOx emissions from the engine into the after-treatment system. In addition, the after-treatment system has three key parts, including:

- a diesel oxidation catalyst that converts and oxidizes hydrocarbons into water and carbon dioxide;

- a selective catalytic reduction that uses an ammonia and water solution to convert the NOx in the exhaust stream into water and inert nitrogen; and
- a diesel particulate filter that traps any remaining soot and periodically burns it away when sensors detect that the trap is full.

The engine will also use a high-precision, common-rail fuel-injection system featuring piezo-electric injectors. This system uses a stack of more than 300 wafer-thin ceramic platelets to control the fuel injector nozzle, allowing it to operate faster than other electro-mechanical fuel injectors, decrease fuel consumption and reduce emissions.

The 2011 Super Duty is Ford's first vehicle in North America that is B20 compatible, meaning it can run on fuel composed of 20 percent biodiesel and 80 percent ultra-low-sulfur diesel. Biodiesel is a renewable fuel made from soybean oil and other fats. We went through extensive testing to ensure that this new truck would meet performance and durability requirements when fueled with B20, including running durability cycles on multiple blends of diesel and biodiesel fuels to ensure the robustness of the system. Previously, Ford Super Duty products in North America were approved to use B5 fuel, which is composed of 5 percent biodiesel and 95 percent petroleum diesel. In Europe, our vehicles are also compatible with B5, and we are working with European fuel standards organizations to establish fuel-quality standards for biodiesel blends greater than B5. The use of biodiesel helps to reduce dependence on foreign oil and reduces lifecycle CO_2 emissions. For more information on biofuels, please see the Renewable Biofueled Vehicles section.

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1. Figures based on J.L. Sullivan, R.E. Baker, B.A. Boyer, R.H. Hammerle, T.E. Kenney, L. Muniz, and T.J. Wallington, 2004, "CO_2 Emission Benefit of Diesel (versus Gasoline) Powered Vehicles," *Environmental Science and Technology*, 38: 3217-3223.

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Hybrid Electric Vehicles (HEVs)

Ford Fusion

HEVs are powered by a traditional internal combustion engine and battery power to deliver improved fuel economy. Ford is the largest domestic manufacturer of hybrid vehicles in the U.S. and has announced plans to introduce hybrids in Europe by 2013.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Hybrid Electric Vehicles (HEVs)

Ford is currently the largest domestic producer of hybrid vehicles, with more than 160,000 on the road as of March 2011. Ford introduced its first hybrid in 2004, the Ford Escape Hybrid, which was also the world's first hybrid SUV. We followed up with the Mercury Mariner Hybrid in 2005. In early 2009 we further expanded our hybrid vehicle lineup by introducing the Ford Fusion and Mercury Milan Hybrids. All of these vehicles are full parallel hybrids, meaning they can run exclusively on battery power, exclusively on gas power or on a combination of both to deliver the best overall fuel efficiency. We are currently increasing our hybrid volume, targeting a cost reduction of more than 30 percent in our 2012 next-generation hybrid systems and preparing for hybrid capability across our highest-volume global product platforms.

The Ford Fusion Hybrid has a U.S. Environmental Protection Agency fuel economy rating of 41/36 mpg city/highway, making it the most fuel-efficient midsize sedan in the U.S.[1] The Fusion Hybrid's fuel economy significantly exceeds that of its nearest midsize sedan competitor, and it can go more than 700 miles on a single tank of fuel. It includes an innovative new SmartGauge™ with EcoGuide instrument cluster that coaches hybrid drivers to maximize fuel efficiency.

In 2010, we launched the Lincoln MKZ Hybrid, which is the most fuel-efficient luxury sedan in America and is available at the same price as the gas model MKZ. In 2011, we announced the introduction of a hybrid version of the Ford C-MAX multi-activity vehicle. This will be one of three electrified vehicle options based on our C-platform. The others are the Focus Electric (a battery electric vehicle, or BEV), the C-MAX Energi (a plug-in hybrid, or PHEV) and the C-MAX Hybrid. The hybrid variant of the C-MAX will build on the fuel economy leadership of the Ford Fusion Hybrid, already the most fuel-efficient mid-sized sedan in America. This vehicle will use the Company's powersplit hybrid architecture, with improved fuel efficiency and a lighter, smaller lithium-ion battery system. The C-MAX Hybrid and C-MAX Energi, along with another still-to-be-announced HEV, will be introduced in North America by 2012 and in Europe by 2013.

Our next-generation hybrids will also have a suite of driver information systems to help drivers maximize fuel efficiency. They will feature an enhanced version of the MyFord Touch™ driver interface system that can be configured to show different levels of information, including fuel and battery power levels, as well as average and instant miles per gallon.

1. Midsize sedan segment based on the R.L. Polk segment definition.

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Battery Electric Vehicles (BEVs)

Transit Connect Electric

BEVs use no gasoline; they are powered by a high-voltage electric motor and battery pack. In 2010, Ford introduced its first BEV, the Transit Connect Electric. In 2011, Ford will introduce the Focus Electric with a planned range of 100 miles on a charge and half the recharge time of our competitors' BEVs.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Battery Electric Vehicles (BEVs)

Ford has announced an expanded, comprehensive electric vehicle strategy aligned with growing public interest in advanced technologies that reduce the use of gasoline and diesel. Our approach to electrification tackles commercial issues such as battery cost, standards development and infrastructure deployment. In addition, strategic partnerships are an important part of this new approach. We are working with partners to develop appropriate battery cells, collaborate on government policy and define the infrastructure needed to speed the commercialization and acceptance of electric vehicles. To read more about our approach, please see Electrification: A Closer Look.

Battery electric vehicles do not have an internal combustion engine and do not use any on-board gasoline. Instead, they use a high-voltage electric motor, which gets its power from a high-voltage battery pack charged by plugging into a standard 110-volt or 220-volt outlet in the U.S., or a 230-volt outlet in Europe.

In 2010 we introduced a BEV version of the Ford Transit Connect light commercial van, for use by small business owners and fleet customers in the U.S. This vehicle is produced in partnership with Azure Dynamics, a world leader in the development and production of hybrid electric and battery electric commercial vehicles.

In late 2011 we will launch an all-electric passenger sedan, the Ford Focus Electric, based on the all-new Focus. This car has a target driving range of 100 miles on a single charge of its lithium-ion high-voltage battery. We are targeting 19 initial markets with this vehicle. We will be ready to expand to new markets and ramp up to higher volumes as the infrastructure develops and customer demand grows.

A full recharge of the Focus Electric is expected to take three to four hours at home with the 240-volt charge station – half the charging time required by competitors' battery electric vehicles. As fast-charge technology standards are developed, Ford's Focus Electric will be designed to take advantage of this capability.

The Focus Electric, as well as Ford's other electrified vehicles including HEVs and PHEVs, will use lithium-ion batteries. These batteries provide better performance, require less space and weigh less than the nickel metal hydride batteries used in current hybrid electric vehicles. The Focus

Electric's advanced lithium-ion battery system was engineered by Ford in cooperation with the supplier LG Chem. It uses an advanced, active liquid cooling and heating system to precondition and regulate the temperature, which helps to maximize battery life and fuel-free driving range.

The Focus Electric will include an enhanced version of MyFord Touch™ – Ford's new driver interface technology – that will give drivers information to help maximize driving range, plan the most eco-friendly route and manage the battery recharge process.

Drivers will also be able to manage their Focus Electric remotely using the Ford-developed MyFord Mobile app. This system enables customers to get instant vehicle status information, perform key functions remotely, monitor the car's state of charge and current range, get alerts when it requires charging, remotely program charge settings and download vehicle data for analysis from a smartphone or secure Ford website. For more information on the Focus Electric driver information systems and mobile controls, please see Living the Electric Lifestyle.

The Focus Electric will also work with Value Charging (powered by Microsoft®), a home energy management system that works exclusively with Ford electric vehicles to help customers reduce their electricity costs by taking advantage of off-peak or other reduced rates from their utility, without a complicated set-up process. For more information on this technology, please see Electrification: A Closer Look.

We are also introducing all-electric vehicles in Europe. We will launch the Ford Transit Connect Electric in Europe in 2011 followed by the Ford Focus Electric in 2012. In preparation for these launches, Ford is participating in BEV test trials in the UK and Germany with Transit Connect Electrics as well as early Focus Electrics, to test the technology's suitability in real-world situations.

Ford is actively working to help develop standards to ensure that plug-in and charge stations work for all BEVs and to ensure that the technology is reliable and durable for customers. In North America, the Society of Automotive Engineers, with Ford's participation, successfully aligned all major original equipment manufacturers on a standard charge connector and communication protocol, enabling all plug-in vehicles to use common charge points. This will be a key enabler for adoption in North America; the same connector is under consideration in Europe and China.

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Plug-in Hybrid Electric Vehicles (PHEVs)

Ford Escape

PHEVs are powered by a gas-powered engine and a high-capacity electric battery that can be charged from an electric outlet. Ford will introduce its first PHEV, the C-MAX Energi, in the U.S. in 2012 and in Europe in 2013.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Plug-in Hybrid Electric Vehicles (PHEVs)

PHEVs are similar to HEVs in that they are equipped with both an electric battery and a gas-powered engine. Unlike today's hybrids, however, PHEVs are equipped with a high-capacity battery that can be charged from a private household or public electric outlet. In addition, while regular HEVs maintain a roughly constant battery charge, plug-in hybrids discharge the battery while driving to provide additional fuel savings. PHEVs have the potential to reduce tailpipe emissions to near zero when running on battery power. However, the vehicle's overall lifecycle emissions depend on the electrical power source and the performance characteristics of the vehicle. PHEVs could be significantly less expensive for consumers to operate because they allow drivers to travel on grid-based electricity stored in batteries instead of more costly gasoline.

The success of PHEVs in the real world depends on cooperation between automakers, utilities, the government and drivers. Therefore, Ford is working with a range of partners – including technology partners, the utility industry and the U.S. Department of Energy (DOE) – to help make a smooth transition to electrified vehicles. In 2007, Ford began a collaborative project with Southern California Edison to advance the commercialization of PHEVs. In 2008, Ford expanded this program with the DOE and other partners to identify a sustainable pathway toward accelerated, successful mass production of these vehicles. The project now includes 11 additional partners: the Electric Power Research Institute, the New York State Energy Research and Development Authority, the New York Power Authority, American Electric Power, ConEdison of New York, DTE Energy, National Grid, Progress Energy, Southern Company-Alabama Power, Pepco Holdings and Hydro Quebec.

Ford was awarded $10 million by the DOE to support this program, which includes a three-year demonstration project with a vehicle fleet deployed by the DOE and the energy partners to collect real-world battery performance data and evaluate PHEV and grid performance in different geographical locations. The project aims to help the companies understand critical implementation issues, including the vehicle-utility interface, the impact of plug-ins on utility operations and emissions, and the value to users, utility companies and vehicle manufacturers.

In 2010, Ford completed the deployment of 20 vehicles with the DOE and its utility partners and continued to collect in-field vehicle performance data. To date, the fleet has logged more than 300,000 miles. The collected data is being analyzed by engineers in Ford's Sustainable Mobility Technology group in conjunction with the DOE, Idaho National Laboratories and Argonne National

Laboratories. The results of these analyses continue to drive future PHEV product offerings from Ford as well as aid utility companies in their expectations for when plug-in vehicles hit the market.

For more information on some of the key learnings generated by this collaboration thus far, please see Electrification: A Closer Look.

The demonstration vehicles used in this project (Ford Escape Plug-In Hybrids) have two distinct operational modes: charge depletion and charge sustaining. In charge-depletion mode, which is used when the high-voltage battery is above a predetermined state of charge, the vehicle draws the majority of the power required for operation from the battery. During normal driving, this usually translates into full-electric operation when the vehicle is traveling less than roughly 40 mph. When the power demand of the driver exceeds the power output capacity of the high-voltage battery, the gasoline engine automatically starts up to provide the difference. However, even when the engine is used to supplement power while in charge-depletion mode, the battery still provides the vast majority of the power required to propel the vehicle, giving the driver a sense that the engine is merely idling, even at highway speeds.

In charge-sustaining mode, which is used when the high-voltage battery is below a predetermined state of charge, the vehicle relies mainly on the engine to meet the driver's power demand. The high-voltage battery is charged during braking events and discharged during acceleration events to improve the overall fuel economy of the vehicle – similar to the operation of today's conventional hybrids.

Initial field data show significant improvements in fuel economy when these vehicles are operated in charge-depleting mode. The data also show that in city environments, a fully charged Escape Plug-in Hybrid is capable of an all-electric range in excess of 25 miles, when driven below 40 mph and if aggressive acceleration events are avoided.

We recently announced plans to introduce the Ford C-MAX Energi, our first production PHEV, which will be a variant of the Ford C-MAX multi-activity vehicle. The C-MAX Energi will be designed to deliver a more than 500-mile driving range with battery and engine power. It will launch in the U.S. in 2012 and in Europe in 2013.

The C-MAX Energi will include a wide range of technology to help drivers maximize fuel efficiency, driving range and charging efficiency. Like the Focus Electric, the C-MAX Energi will have an enhanced version of MyFord Touch™ – Ford's new driver interface technology – that will give drivers information to help maximize driving range, plan the most eco-friendly route and manage the battery recharge process. Drivers will also be able to manage their C-MAX Energi remotely using the Ford-developed MyFord Mobile app. The C-MAX Energi will also work with Value Charging by Microsoft®, a home energy management product that will help customers determine when and how to most efficiently and affordably recharge BEVs and PHEVs. For more information on these technologies, please see Living the Electric Lifestyle.

Migration to Alternative Fuels and Powertrains

IN THIS SECTION


Advanced Clean Diesel


HEVs


BEVs


PHEVs


Renewable Biofueled Vehicles


FCVs

Renewable Biofueled Vehicles

Ford Galaxy

Biofuels offer a relatively affordable way to reduce carbon dioxide emissions. Ford is a market leader in biofueled vehicles with more than 5.5 million E85-capable vehicles and 17 E85 models globally.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Renewable Biofueled Vehicles

Current Generation Biofuels

Ford has a long history of developing vehicles that run on renewable biofuels. Our founder, Henry Ford, was a strong proponent of biofuels, and we produced our first flexible-fuel vehicle approximately 100 years ago; the Ford Model T was capable of running on gasoline or ethanol.

Biofuels are an important component of our sustainability strategy for three reasons. First, biofuels can help to address economic, social and environmental sustainability, which includes helping us meet our carbon dioxide (CO_2) reduction targets. Second, the use of biofuels requires relatively modest and affordable modifications to existing vehicle and fueling technology, which makes them a viable near-term option. Third, biofuels offer synergies with our other strategies. For example, the high octane of ethanol is a potential enabler for the introduction of higher compression ratio engines and higher engine boost technologies that improve the efficiency and torque of our future downsized engines.

Given the current trends of increasing biofuel production, increasing investment in advanced biofuels, increasing vehicle efficiencies and the introduction of vehicles that do not use liquid fuels (such as electric and natural gas vehicles) we believe that the use of biofuels may increase from their current level of 2–3 percent globally to 10–30 percent of global liquid transportation fuel over the next few decades. Although Ford is a vehicle manufacturer and not a fuel provider, it is important for us to understand the physical and chemical properties of biofuels (such as their octane ratings), their sustainability attributes (such as lifecycle greenhouse gas (GHG) emissions, water use and energy consumption, etc.) and their performance in our vehicles. We are conducting research and development to ensure that our vehicles will be able to exploit the full benefits of biofuels. Our current work focuses on the two biofuels that are available at a commercial scale: ethanol and biodiesel.

The U.S. and Brazil are the world's largest producers of ethanol, which is made from the fermentation of sugars. In the U.S. the sugar is derived via the hydrolysis of corn starch, while in Brazil the sugar is obtained directly from sugar cane. Ethanol is typically used in blends with gasoline. Blends are identified using the volumetric content of ethanol, which is specified numerically after the letter "E" for ethanol. For example, E10 is 10 percent by volume ethanol and 90 percent petroleum gasoline, while E85 is up to 85 percent by volume ethanol. Most automotive

fuel supplied in the U.S. is E10. The U.S. Environmental Protection Agency (EPA) has recently issued a waiver permitting E15 to be sold in the U.S. for use in 2001 or newer model year vehicles. Our position regarding E15 is discussed in a separate section below.

An important benefit of ethanol is its higher octane, which can improve the efficiency and torque of today's high-efficiency internal combustion gas engines. In 2010 we developed a fundamental molecular approach to calculating the octane boost provided by ethanol blended into gasoline that is more accurate than previous measurement approaches.[1] The octane number of a fuel is a critical fuel property that describes its resistance to "knock," which results from early or uncontrolled fuel ignition. To avoid "knocking," the compression ratios designed into engines are limited by the lowest expected octane number of available fuels. However, engines operate at higher thermal efficiency when they can be operated at higher compression ratios using appropriate higher-octane fuel. The increased availability of ethanol in the future provides an opportunity for fuel providers to deliver fuels with higher octane and automakers to provide higher compression ratio – and therefore more-efficient – engines. High-octane ethanol blends offer a win-win-win opportunity in which the increased availability of ethanol could enable increased engine efficiency, resulting in fuel savings for our customers, improved energy security and reduced CO_2 emissions. However, ethanol also may damage engines that are not designed to operate on higher concentrations of the fuel, which poses a concern for older vehicles. Our research into ethanol fuels and octane calculations will help us take the best advantage of higher-octane ethanol fuel blends in the future.

Biodiesel is a biofuel alternative to petroleum diesel made from the transesterification of vegetable oils obtained from oil seeds, including soy, canola, palm and rapeseed, or from animal fat. Biodiesel is distinct from "renewable diesel," which is made by hydrotreating vegetable oils or animal fats. In the U.S., most biodiesel is currently made from soybean oil. Biodiesel is typically used in blends with petroleum diesel, where the volumetric content of biodiesel is specified numerically after the letter "B" for biodiesel. In the U.S. and Europe all of our diesel vehicles can run on B5, a blend containing 5 percent biodiesel. We have worked with fuel standards organizations to allow the use of biodiesel blends of greater than B5 in our future products. For example, our 2011 F-Series Super Duty® trucks with a new 6.7L diesel engine are compatible with B20. In addition, the gasoline version of these vehicles will be compatible with gasoline, E85 or any ethanol-gasoline blend between E0 and E85.

Ford has taken a leadership position on biofuels. Since 1997, we have offered flexible-fuel vehicles (FFVs) capable of running on gasoline or E85 ethanol. In the U.S., we met our commitment to double our FFV production from 2006 to 2010. To date, we have introduced more than 5.5 million E85-capable vehicles globally, including more than 2.3 million in North America and nearly 2 million in Brazil. In the U.S., we have produced more than 1 million FFVs over the last three years alone. In Europe, Ford is a market leader and pioneer in ethanol-powered FFVs, with more than 70,000 vehicles delivered to customers since 2001. Ford FFV models are available in many European markets, with Sweden, Germany, Spain and France showing the strongest demand.

Ford currently offers 17 vehicle models in the U.S., Europe and South America that can run on E85. These include the Ford Crown Victoria, Expedition, Fusion, Escape, Econoline, Super Duty and F-150 and the Lincoln Town Car and Navigator in North America; the Ford Focus, Mondeo, S-MAX and Galaxy in Europe; and the Ford Fiesta, EcoSport, Focus, Ka and Courier in Brazil. In 2009 in Europe we launched a tri-fuel version of the Ford Mondeo, capable of running on gasoline, E85 or propane (LPG).

E15 in the United States

Over the last year, the EPA approved the use of E15 ethanol blends in 2001 and newer model year vehicles. While Ford supports the use of renewable fuels to meet the challenges of energy security and climate change and has committed to expand our lineup of vehicles capable of operating on E85, we do not support approving the use of E15 in older vehicles unless concerns with the use of E15 in the legacy fleet are addressed.

The entire legacy fleet of non-FFVs consists of vehicles designed to operate on E0 to E10 (or only E0 for very old vehicles). We are concerned that vehicles will not continue to meet customer expectations for quality, durability and performance, nor legal requirements relating to emissions and on-board diagnostics, if the vehicles are operated on a fuel they were not designed to use. The Alliance of Automobile Manufacturers and the Association of International Automobile Manufacturers are among many parties seeking review of the E15 waiver in the D.C. Circuit Court of Appeals. Ford is a member of the Alliance. Our ultimate goal is to ensure that we exceed customer expectations, and we will continue to work with our customers and dealerships to address any potential concerns.

One opportunity with the introduction of increased ethanol blends is to increase the octane rating of the new fuel. As discussed above, ethanol has an octane rating greater than today's gasoline, so when the fuels are mixed, the resulting fuel blend should have higher octane than the base gasoline. And as the octane rating of a fuel increases, it reduces the tendency for "engine knock." Many of today's advanced engines are programmed to improve the efficiency of the engine just short of the point where the consumer would experience engine knock. For such engines, an increase in the octane rating of the fuel could result in improved vehicle efficiency. Further improvement to engine efficiency (through increased compression ratio and downsizing) could be achieved if manufacturers knew how and when the minimum octane ratings of fuels would increase in the future. Given that vehicles' efficiency and performance depends on the fuel it uses, the two should be considered systematically. Coordinated efforts among the involved industries (oil, biofuel, auto) and regulatory agencies are needed to ensure that maximum benefit is gained from our future fuels and vehicles.

Future Biofuels

The biofuels currently available at a commercial scale (e.g., ethanol and biodiesel) have advantages relative to their petroleum-derived counterparts. They can be made from locally available raw materials, providing support for rural communities and reducing the need for foreign-supplied oil, while increasing national energy security. They also reduce lifetime (or well-to-wheels) CO_2 emissions compared to conventional petroleum-based fuels. However, important issues remain regarding biofuels' energy density, the best way to use these fuels to reduce GHG emissions, their ability to meet fuel needs without impacting food supplies and their potential impact on land-use decisions. (These issues are discussed in more detail later in the Biofuel Challenges section.)

Meanwhile, Ford is working to support and promote the next generation of biofuels, including cellulosic biofuels. These are primarily fuels made from plant cellulose – stalks, leaves and woody matter – instead of from sugars, starches or oil seeds. Cellulosic biofuels will have many advantages. They should minimize possible market competition between food and fuel. They would allow the more complete use of crops such as corn and soybeans by using additional parts of these crops, including stems and leaves, for fuel production. In addition, cellulosic biofuels can be made from "energy crops," such as switchgrass and wood, that require less fertilizer and less energy-intensive farming methods. This would further reduce the total CO_2 footprint of the resulting biofuels. We are also investigating the potential for algae-based biofuels to provide another feedstock for future biofuels. Given the challenges associated with developing and scaling up new production technologies, it is our assessment that next-generation biofuels will be available at scale in the marketplace in the next 10–15 years, if the necessary technical breakthroughs in production efficiencies are made.

The United States Renewable Fuel Standard and the Future of Biofuels

The Energy Independence and Security Act of 2007 expanded the Renewable Fuel Standard (RFS) by requiring a significant increase in the use of biofuels – to a total of 36 billion gallons per year by 2022. This law also requires that, beginning in 2010, a certain portion of biofuels must be "advanced" and/or cellulosic-based fuels. Ethanol blended into gasoline is expected to supply the majority of this biofuel mandate and could displace nearly 20 percent of U.S. gasoline demand by 2022.[2] The use of biodiesel in the U.S. is also likely to increase in the coming years. However, it will not likely increase to the same levels as ethanol, because the RFS mandates lower volumes of biomass-based diesel and because a relatively small percentage of light-duty passenger vehicles in the U.S. use diesel.

Using low-level ethanol blends such as E10 (which is the situation today), would achieve approximately 40 percent of the RFS-mandated biofuel use by 2022. Therefore, meeting the full RFS biofuel requirement will require much greater use of E85 in FFVs and/or the development of vehicles that can use "mid-level blends" of ethanol and gasoline (i.e., between E10 and E85). The expanded use of E85 in FFVs would require a corresponding increase in the E85 fueling infrastructure in the next 10 to 20 years. An approach using mid-level blends would require that all new vehicles be designed for higher ethanol capability, and the existing fueling infrastructure would need to be improved for higher ethanol compatibility. For any of these approaches to be successful, the new fuels will have to provide enough value to the consumer to compel them to buy ethanol-blend fuels. Regardless of the specific strategy used, coordinated efforts will be required between automakers, fuel suppliers, consumers and the government to meet the RFS mandate while ensuring the compatibility of vehicles and ethanol-blended fuel. Without alignment between vehicles, fuels and infrastructure, a mismatch will occur, and it will be difficult to meet the RFS mandate successfully.

Biofuel Infrastructure

To increase their benefits for reducing GHG emissions and improving energy security, biofuels must become more widely used. This requires the availability of both biofuels and vehicles capable of using biofuels. In the U.S., the E85 refueling infrastructure remains inadequate. Out of more than 160,000 refueling stations in the U.S., approximately 2,300 (or less than 2 percent) offer E85. For consumers to have a true transportation fuel choice, increased access to biofuels is necessary.

Biofuel Challenges

Much of the interest in biofuels results from their potential to lessen the environmental impacts of transportation fuels while contributing to energy independence. Biofuels are typically made from domestic and renewable resources, they provide an economic boost to rural communities, and they help to reduce greenhouse gas emissions because the plants from which they are made absorb CO_2 while they are growing. But are biofuels the best solution to our growing fuel-related environmental, economic and political problems? The issues are complex. We believe biofuels are an important part of the equation for addressing climate change and energy security. We recognize, however, that major advances need to be made in production processes, source materials and fuel types to achieve the full promise of biofuels.

Challenges relating to today's biofuels include the following:

Energy Density

The energy density of ethanol is approximately two-thirds that of gasoline.[3] This means there is approximately one-third less available energy in a gallon of ethanol than in a gallon of gasoline.

As a result, drivers using fuels containing higher amounts of ethanol will have to refuel more frequently. Ethanol does have improved qualities, such as higher octane, that can be leveraged to recover much of the lost energy content. Biodiesel has approximately the same energy density as conventional petroleum-based diesel.

Lifecycle Greenhouse Gas Emissions

The plants used to produce biofuel feedstocks capture as much carbon dioxide during their growth as they release when burned. However, current farming and production processes utilize fossil fuels in the production of ethanol and biodiesel, so the production of these biofuels results in a release of some fossil-fuel-based GHG emissions on a complete lifecycle basis. In addition, nitrous oxide (N_2O) emissions resulting from biofuel production need to be carefully considered for all types of biofuel feedstocks and farming techniques on a full lifecycle basis, including the appropriate allocation of emissions to co-products (such as animal feed) derived from biofuel production. Government and academic studies suggest that current E85 using ethanol from corn results in 20 to 30 percent fewer lifecycle GHG emissions than today's gasoline, on an energy-equivalent basis. In addition, GHG emissions related to petroleum can vary greatly depending on the source. Producing crude oil from tar sands, for example, results in a greater release of GHGs than producing crude oil from conventional sources. The use of renewable energy sources in the production of ethanol and biodiesel production can reduce their lifecycle GHG emissions further. We believe that developing cellulosic or biomass-based biofuels with next-generation processes will significantly decrease the GHG emissions associated with biofuels, perhaps by up to 90 percent.[4]

Competition with the Food Supply

Another concern about current corn- and soybean-based biofuels is that they compete in the marketplace with food supplies and are often cited as one of the factors that increase food prices. In the U.S., demand for corn used directly for human food (including high-fructose corn syrup) consumes less than 10 percent of the total corn supply. Approximately 42 percent of U.S. corn is used for animal feed. In 2009, about 32 percent of the corn harvest in the U.S. was used to produce ethanol. Ethanol production removes only the starch from the corn kernel – the remaining portion is a highly valued feed product (called distiller grains) and a good source of energy and protein for livestock and poultry. This mitigates the competition between ethanol production and food production. In addition, the growth of the energy crop market has encouraged improvements in farming productivity (e.g., bushels per acre) that may not have occurred otherwise, further reducing the impact of biofuels on corn availability. If next-generation biofuels can efficiently utilize biomass such as plant stalks, woodchips or grasses and be grown on marginal land with little irrigation, then competition with food crops should be minimized. In 2011, Ford researchers published a technical assessment of the contribution of biofuel production to the increase in food prices in 2008.[5] We agree with the majority of external studies that find that biofuel production has a small, or modest, impact on commodity food prices.

Land-Use Conversion for Biofuel Production

Recent studies have looked at the overall CO_2 and N_2O impacts of "direct" land-use changes associated with biofuels – i.e., converting natural ecosystems to farmland for the production of crops to make biofuels. Additional studies have considered an "indirect" land-use change scenario in which the use of farmland for biofuels in one region indirectly leads to the conversion of natural ecosystems to farmland in another region due to crop market feedbacks (either replacing the grain in the marketplace or due to increased prices). This is a complex and important issue. Converting natural lands to croplands can lead to the release of carbon stored in above- and below-ground biomass. Releasing this carbon in the form of CO_2 during land conversion to energy crop farming creates a carbon "debt," which may take a very long time to repay through the greenhouse gas benefits of the subsequent biofuel use. The use of degraded pastures or abandoned farmland, by contrast, rather than natural ecosystems, would incur minimal carbon debt, because there is limited CO_2 storage in these previously altered ecosystems.

At Ford, we are following the debates about biofuels closely. As we proceed, we need to consider how biofuels are derived and carefully review issues such as the potential net greenhouse gas benefits; political, economic, social and environmental concerns related to biofuel and petroleum use; and the management of land, food and water resources. We agree with the general consensus among scholars and industry experts that the current generation of biofuels have modest environmental benefits and are a first step toward cleaner transportation and energy independence. We are actively investigating the potential of next-generation biofuels that have greater environmental, energy security and economic benefits. We believe that improvements in the efficiency of farming technologies and biomass production processes, and the development of advanced biofuels, will significantly increase the benefits and long-term sustainability of biofuels. Even with these improvements, solving our climate change and energy security problems will require a multifaceted set of solutions, including new fuels, improvements in vehicle efficiency and changes in consumer driving patterns and practices.

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Migration to Alternative Fuels and Powertrains

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HEVs


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PHEVs


Renewable Biofueled Vehicles


FCVs

Hydrogen Fuel Cell Vehicles (FCVs)

Ford Focus

FCVs are powered by an electric motor fueled by hydrogen burned in a fuel cell system. They emit just water vapor, without other tailpipe pollutants. Ford began testing a fleet of Focus FCVs in 2004 and continues to research and develop technologies necessary to commercialize FCVs.

2007	2011	2020	2030
NEAR TERM	MID TERM	LONG TERM	
Begin migration to advanced technology	Full implementation of known technology	Continue deploying advanced powertrains and alternative fuels and energy sources	

Hydrogen Fuel Cell Vehicles (FCVs)

Hydrogen fuel cell vehicles are similar to battery electric vehicles (BEVs) in that they use a high-voltage electric motor to propel the vehicle. Unlike BEVs, however, FCVs are equipped with a hydrogen fuel tank and a fuel cell system that generates electric power to drive the electric motor. So FCVs use on-board hydrogen stored in the fuel tank, while BEVs are powered by electric energy stored in the high-voltage battery. As a result, FCVs provide many of the environmental benefits of a battery electric vehicle but have a longer driving range.

The fuel cell system runs the vehicle by converting hydrogen and oxygen into energy through an electro-chemical reaction. It emits just water vapor, without other tailpipe pollutants. Therefore, FCVs are considered to be zero-emission vehicles. FCVs can also be hybridized with a high-voltage battery, to improve vehicle performance and better optimize the cost and robustness of the fuel cell system. In fact, all of our efforts to improve high-voltage electronics, electric motors, regenerative braking and hybrid battery technology on BEVs, hybrid electric vehicles and plug-in hybrids can be applicable to FCVs, if and when these vehicles become commercially viable.

We believe that hydrogen-powered fuel cell vehicles may be an important long-term solution for improving energy security and diversifying our energy sources, as well as for reducing greenhouse gas emissions, if hydrogen fuel emerges as a viable low-carbon energy carrier. Therefore, Ford has committed to significant hydrogen fuel cell research and development.

Technology Demonstration

Ford has been working on fuel cell vehicle development and technology demonstration for more than a decade. We developed the first research prototype FCV in 1999. In 2004, we introduced a technology demonstration fleet of FCVs using the Ford Focus as a base vehicle. The Focus FCV uses a Ballard fuel cell technology, called HyWay1. It is one of the industry's first hybridized fuel cell vehicles, meaning it has a battery system as well as a fuel cell system.

From 2004 to 2009, Ford participated in a technology demonstration program partially funded by the U.S. Department of Energy (DOE), as well as other demonstration programs in Canada and Europe. A total of 30 Ford Focus FCVs have been in operation in these programs. These vehicles have been tested to demonstrate durability and reliability; for example, they were subjected to driving tests at sub-zero temperatures and high altitudes to prove vehicle performance under a

range of customer-encountered driving environments. By 2009, these vehicles had accumulated more than a million driving miles without significant technical problems, thereby demonstrating the reliability of fuel cell powertrain systems in real-world driving conditions. The data collected from this fleet is critical for the further development of fuel cell technology. Based on the knowledge gained, we have completed the development and laboratory validation of our new fuel cell technology, called HyWay2/3. This new technology improves the robustness and "freeze start" capability of the fuel cell propulsion system.

Challenges of Commercialization

Even with the advances we have made in hydrogen technology over the past 10 years, we still have challenges to overcome before hydrogen FCVs can compete in the market with current vehicle technology. The cost and durability of the fuel cell system are the most significant challenges. For example, extensive DOE analysis has not yet revealed an automotive fuel cell technology that meets the DOE's targets for real-world commercialization, or that maintains proper performance throughout the targeted lifetime while staying within the targeted cost. There are also still significant challenges related to the cost and availability of hydrogen fuel and on-board hydrogen storage technology. To overcome these challenges and make fuel cell vehicle technology commercially viable, we believe further scientific breakthroughs and continued engineering refinements are required.

Research and Development

Given these significant challenges to commercialization, we believe that further investment in demonstrating hydrogen FCVs and integrating current FCV technology into existing vehicles are not high-value investments for Ford. Therefore, Ford has reprioritized its resources to concentrate on core fuel cell research that will help increase the commercialization potential of FCVs. For example, we are focusing on materials development and basic scientific research to solve cost and durability challenges.

Our materials research is focused on the membrane electrode assembly (MEA) and bipolar plates, which make up key cost and/or durability elements of the fuel cell stack. For example, we are working to develop a new fuel cell catalyst that will significantly reduce the use of precious metals, such as platinum, and we are exploring alternatives to expensive components, such as developing low-cost corrosion-resistant bipolar plates. Simultaneously, we are working to increase the power density of the individual fuel cell stack. This could potentially reduce the use of the expensive materials and components in the stack. MEA research is also crucial to our ability to optimize fuel cell stack operating conditions and reduce system complexity. We are working on the fuel cell stack research and development with our alliance partners: Daimler AG and the Automotive Fuel Cell Cooperation (AFCC), a Vancouver-based company owned by Ford, Daimler and Ballard.

We are also working to optimize the overall propulsion system architecture to take advantage of advances in fuel cell materials and lessons learned from our demonstration FCV fleet. By developing advanced computational modeling that will help us understand the mechanisms underlying ideal fuel cell functioning and anticipate failure modes under real-world usage, we are able to propose operating strategies and system architectures that minimize fuel cell propulsion system costs. These modeling tools support our fuel cell materials and system research.

On-board hydrogen storage is another critical challenge to the commercial viability of hydrogen FCVs. Current demonstration vehicles use compressed gaseous hydrogen storage. However, the high-pressure tanks required for this storage use expensive materials such as carbon fiber reinforcement. In addition, the current tanks are large and difficult to package in a vehicle without unacceptable losses in passenger or cargo space. Therefore, we are pursuing research on materials-based on-board hydrogen storage technology, including complex hydride and novel hydrogen sorbent technologies, which may ultimately achieve higher energy density and lower cost.

Hydrogen Refueling Infrastructure

Producing and distributing hydrogen fuel is another important hurdle on the road to implementing hydrogen-powered FCVs and hydrogen-powered internal combustion engines (H_2ICEs), which Ford led the automotive industry in developing commercially. The GHG reduction benefits of hydrogen fuel depend on what procedures and feedstocks are used to produce the hydrogen. Currently, the most state-of-the-art procedure is a distributed natural gas steam reforming process. However, when FCVs are run on hydrogen reformed from natural gas using this process, they do not provide significant environmental benefits on a well-to-wheels basis (due to GHG emissions from the natural gas reformation process). It would be necessary to employ carbon sequestration technologies in hydrogen production from fossil fuels or increase the use of renewable energy sources, to enable the hydrogen for hydrogen-fueled FCVs to provide significant environmental benefits.

Even if the challenges of producing hydrogen can be overcome, there is still no widespread hydrogen fueling system. Therefore, new infrastructure must be invested in, designed and executed throughout the country to make hydrogen-powered vehicles commercially attractive to Ford customers.

Working alone, Ford will not be able to overcome all of the challenges hydrogen vehicles face. That is why Ford is collaborating with a wide range of partners on the development of hydrogen vehicles, fuels and fueling systems. In addition to our work with the AFCC and Daimler described above, we are working with:

- The Freedom CAR and Fuel Partnership: a partnership between Ford, General Motors, Chrysler, five energy providers and the DOE to develop fuel cell technology, vehicles and hydrogen fuels that will provide freedom from imported oil and carbon-based fuel emissions; and
- The Clean Energy Partnership Berlin: a consortium of 13 corporate partners and the German government that is working to demonstrate the suitability of hydrogen as a fuel for everyday use.

Toolbox

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Ford's Green Partnerships with Federal and State Governments

The 2007 Energy Independence and Security Act (EISA) continued the effort to transition interactions between automakers and the government on fuel economy standards from an adversarial relationship to a partnership. The EISA authorized tough standards for new vehicle fuel economy while creating the Section 136 Advanced Technology Vehicle Manufacturing Incentive Program. Section 136 authorized the U.S. Department of Energy (DOE) to make direct loans to eligible applicants for projects that re-equip, expand or establish manufacturing facilities in the U.S. to produce advanced technology vehicles or qualifying components, and also for engineering integration costs associated with such projects. This federal, $25 billion loan program sought to help automakers invest in the future and implement a new fuel economy mandate estimated by the National Highway Traffic Safety Administration to cost $114 billion.

In June 2009, Ford, Nissan and Tesla were the first companies selected to participate in the Section 136 program after each demonstrated that they had top "green" technologies and met a stringent financial viability test required by the loan program. All three manufacturers offered advanced technology that could "move the needle" on better fuel economy and reduce oil imports.

This government-industry partnership should not be confused with emergency taxpayer assistance provided as part of the Troubled Asset Relief Program (TARP). In contrast to TARP, these loans were awarded based on merit and the potential of the programs to deliver significant fuel economy improvements. Also, the borrowers had to be deemed financially viable, and the funds will be fully repaid with interest. Ford's loan was fully collateralized.

This DOE loan program is an example of how successful government-industry partnerships can work to achieve public policy goals. The DOE provided low-cost loans to help re-tool U.S. manufacturing facilities for the production of fuel-efficient, advanced-technology vehicles that will result in higher fuel economy and lower emissions, while saving consumers money at the pump and reducing our dependence on foreign oil. U.S. taxpayers will make money on these loans as they are repaid.

Ford is investing billions of dollars in advanced technology vehicles in the U.S. over the duration of the approved loan application, and the loans will help Ford achieve its ambitious goals for fuel-efficient vehicles and technologies. Ford expects to receive funding of up to $5.9 billion through these DOE loans. We will use this funding in part to redesign 11 Ford facilities in the U.S. that make more fuel-efficient vehicles, including the Michigan, Louisville, Chicago and Kansas City Assembly Plants.

An outstanding example of how Section 136 partnership funds are being used is the production of the Ford Focus at the Michigan Assembly Plant (MAP). MAP is being transformed from a large SUV factory into a modern, flexible small-car plant that will produce the global Ford Focus. The new Focus will be one of up to 10 unique models to be built from Ford's new C-car platform, which is expected to generate total sales in all regions of 2 million units annually by 2012. The Focus is also one of four Ford vehicles that achieves more than 40 mpg. We began production of the all-new Focus at MAP in 2011. In addition, we will produce three of our new electrified vehicle offerings at MAP. In 2011, we will begin producing the Focus Electric, and in 2012 we will begin producing our next-generation C-MAX Hybrid and the C-MAX Energi, our first commercially available plug-in hybrid. The C-MAX vehicles are also based on our new C-platform. For more information about MAP please see: Case Study: Michigan Assembly Plant.

The new Focus exceeds Section 136's Advanced Technology Vehicle requirements by combining key technologies to achieve class-leading fuel economy, including: an advanced combustion engine, six-speed transmission, deceleration fuel shut-off, electric power-assisted steering, improved aerodynamics and lightweight materials.

Ford is investing approximately $550 million to introduce the North American market to Ford's global C-platform, which underpins the Focus and C-MAX vehicles. This investment will support more than 4,000 high-tech manufacturing and engineering jobs, not to mention more than 10,000 supplier jobs and 175,000 dealership positions.

In 2010 – and also with the support of DOE's Section 136 loan funds – we invested $400 million in our Chicago Assembly Plant to ready it for production of the all-new 2011 Ford Explorer. The 2011 Explorer has best-in-class fuel economy for its segment and offers up to 30 percent better fuel economy than the previous Explorer model. It will offer our 2.0L I-4 EcoBoost™ engine, which delivers superior power and fuel economy. This redesign includes investment in advanced quality control and flexible manufacturing systems, and also resulted in Ford adding 1,200 new jobs at the plant. The plant will also continue production of the Ford Taurus and Lincoln MKS sedans. Our reinvestment in and redesign of the Chicago Assembly Plant to produce more fuel-efficient vehicles is especially symbolic, as this is Ford's oldest assembly plant still in operation in North America. It formerly produced the Ford Model T and Model A vehicles and produced military

Related Links

This Report:

- Michigan Assembly Plant
- EcoBoost™

vehicles during World War II.

We are also investing $600 million to transform our Louisville Assembly Plant into a state-of-the-art facility, which will be our most-flexible high-volume plant in the world. When this plant reopens in 2011, it will produce our next-generation Ford Escape. This investment will result in 1,800 incremental jobs.

Finally, the DOE partnership is helping to fund our $400 million investment in our Kansas City Assembly Plant, to ready the plant for production of a new vehicle, yet to be announced. This plant previously built the Ford Escape, which will shift production to the Louisville Assembly Plant. The $400 million investment will pay for installing a new body shop, new tooling and other upgrades. The Kansas City plant will continue to produce the Ford F-150 on a separate production line.

Ford's sustainability commitments have received state government support as well. Working in close partnership with the state of Michigan, Ford received incentives and tax credits totaling $188 million to help in the continuous transformation of MAP. In addition to building the next-generation hybrid in Michigan, these incentives enabled Ford to bring advanced lithium-ion battery system design, development and assembly in-house.

Ford also received a $2 million grant from the state of Michigan to install a large, stationary battery-based energy storage facility with 750 kw capacity and 2 MWh of storage. This facility supports the state's "smart-grid" development initiatives as well as Ford's efforts to develop battery technology and secondary uses for vehicle batteries. As part of this facility, Ford is demonstrating the possibility for using vehicle batteries as stationary power storage devices after their useful life as vehicle power sources is over. Ford is participating in this project in partnership with DTE Energy, a Michigan-based energy provider. DTE Energy has installed a 500 kw solar photovoltaic (PV) electricity generation system at the demonstration facility, which will produce some of the energy to be stored in Ford's stationary battery storage facility. It is the largest PV array in Michigan. The solar PV system was funded by DTE Energy to support Ford's sustainability efforts and to help the state of Michigan meet its renewable energy production requirements. As part of this project, Ford developed 10 electric vehicle charging stations, which demonstrate advanced battery charging technologies and associated integration with renewable energy and other smart-grid advances.

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Progress and Performance

Vehicle + Fuel + Driver = GHG emissions

How is Ford doing in its quest to reduce greenhouse gas (GHG) emissions? Based on analyses of lifecycle vehicle carbon dioxide (CO_2) emissions, approximately 80 to 90 percent of GHGs are emitted while the vehicle is in use, rather than during its manufacture or disposal. The in-use emissions depend on three major factors:

1. The fuel economy of the vehicles, which in turn depends on many characteristics of the vehicles themselves (such as their weight, powertrain and aerodynamics).
2. The well-to-wheels greenhouse gas profile[1] of the fuels used in the vehicles.
3. How the vehicles are used and maintained by their drivers.

Our shorthand for this is "Vehicle + Fuel + Driver = GHG emissions." This section reviews our progress in reducing these emissions, as well as our progress reducing emissions from our facilities, our logistics and our supply chain.

1. In other words, emissions resulting from making, distributing and using the fuel.

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Vehicle

Vehicle + Fuel + Driver = GHG emissions

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Our Approach

To meet our climate change commitments, we are focused in the near term on implementing the most cost-effective fuel-efficiency technologies across a large volume of our vehicles, as well as on introducing new products that offer improved fuel efficiency without compromising style or performance. We are concentrating on affordable and near-term sustainable technology solutions that can be used not for hundreds or thousands of cars – but for millions of cars, because that is how Ford can truly make a difference.

For example, we are introducing a wide variety of new engine and transmission technologies, as well as electrical system improvements, weight reductions and aerodynamic improvements that will deliver significant fuel-economy benefits for millions of drivers in the near term. Between 2008 and 2013, we will introduce 60 new or significantly upgraded engines, transmissions and transaxles globally to help us improve fuel economy and reduce carbon dioxide (CO_2) emissions across our global fleet.

We are continuing to implement the EcoBoost™ engine, a key technology in our fuel-efficiency strategy, which uses gasoline turbocharged direct-injection technology. EcoBoost delivers 10 to 20 percent better fuel economy, 15 percent fewer CO_2 emissions and superior driving performance compared to larger-displacement engines. Because EcoBoost is affordable and can be applied to existing gasoline engines, we can implement it across our vehicle fleet, bringing fuel-efficiency benefits to a wide range of our customers. We are on track to equip as much as 80 percent of our global lineup and 90 percent of our North American lineup with EcoBoost engines by 2013. That's about 1.5 million engines. For more information on the EcoBoost and our other near-, mid- and long-term fuel economy improvement technologies, please see our Sustainable Technologies and Alternative Fuels Plan.

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Results

In the U.S., we continue to improve the fuel economy of our new and refreshed vehicles. For example, the Ford Focus, Fusion and Mustang and Lincoln MKZ car vehicle lines, as well as the Ford F-series, Escape and Edge truck and crossover lines, all improved their fuel economy from the 2010 to the 2011 model years. As seen in the graphic below, Ford's 2011 model year U.S. vehicles rank better than the industry fuel economy average in six of 13 categories, worse in one and the same in six.

For the 2010 model year, our fleet CO_2 emissions increased slightly by about 1 percent relative to the 2009 model year, but improved 11 percent compared to the 2006 model year. Preliminary data for the 2011 model year project that the Corporate Average Fuel Economy (CAFE) values for the car and truck fleets will be about the same as the car and truck fleet averages for the 2010 model year. On an overall fleet basis, preliminary estimates indicate a 2011 CAFE improvement of 2.9 percent compared to 2010.

The reason the overall fleet average can improve while the individually calculated car and truck fleet averages remain about the same is that there have been changes to the vehicles included in the car and truck categories. New 2011 model year fleet changes include small, front-wheel-drive SUVs moving to the car fleet and medium-duty passenger vehicles being added to the light-duty truck fleet. For the car fleet, the movement of the front-wheel-drive Escape, Mariner, Edge and MKX to the car fleet largely offsets the car fleet improvements that would otherwise be seen due

Related Links

This Report:
- Our Strategy: Blueprint for Sustainability
- Product Sustainability Index

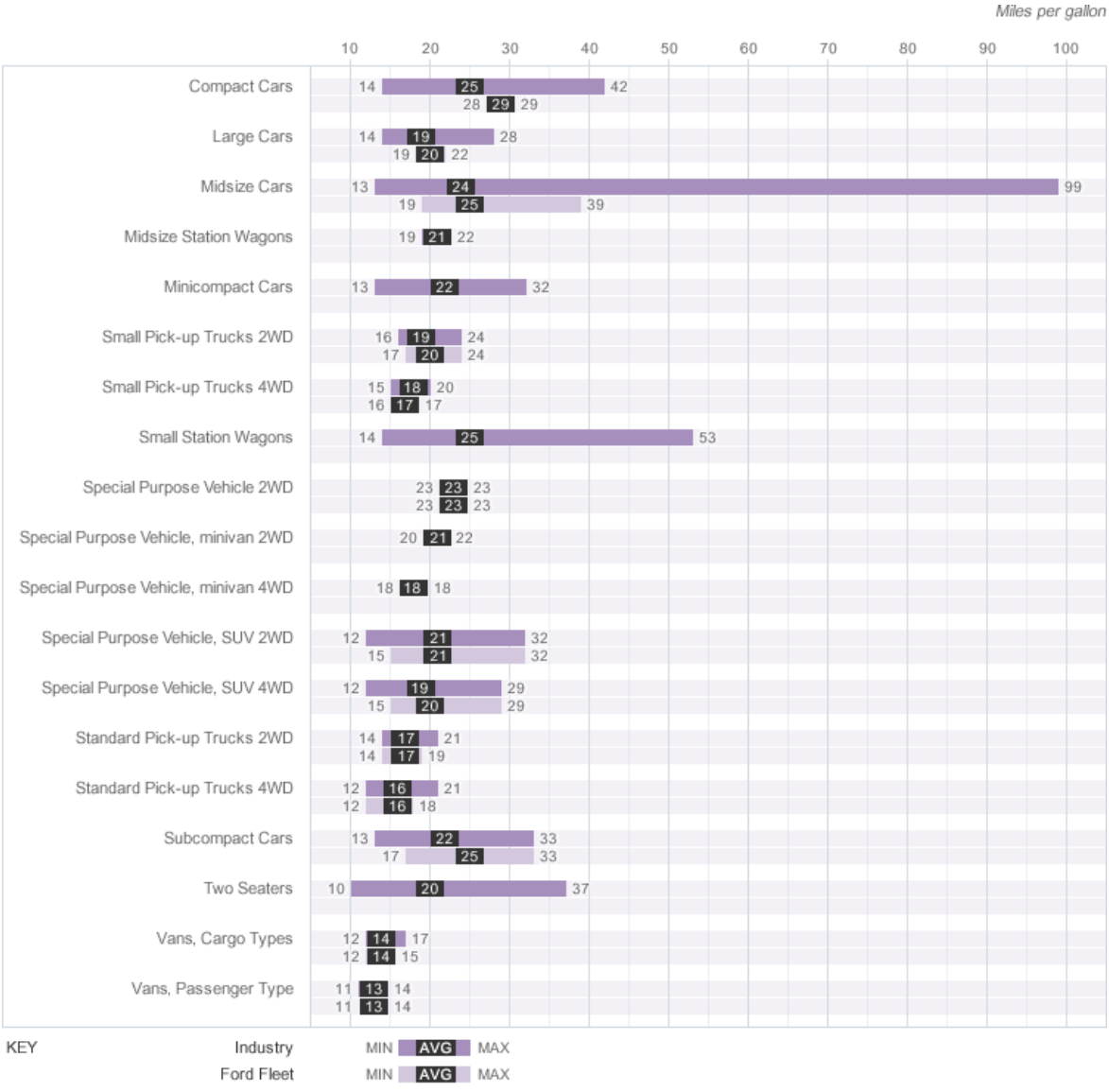
Vehicle Websites:
- Ford Fusion Hybrid
- Lincoln MKZ Hybrid
- Ford Fiesta
- Transit Connect

to the introduction of the Fiesta. For the light-duty truck fleet, the movement of the front-wheel-drive Escape, Mariner, Edge and MKX to the car fleet largely offsets the truck fleet improvements that would be seen due to increased fuel efficiency of the new F-150 and Explorer. So although our overall fleet fuel economy continues an improving trend, moving the more fuel-efficient crossover vehicles from the truck to the car category reduces the average fuel efficiency of both categories.

In Europe, we have reduced the average CO_2 emissions of 2010 model year vehicles by 8.1 percent compared to the 2006 model year.[1] We have achieved this through the introduction of a variety of innovations, such as advanced common rail diesel engines available across the European model range – including the ECOnetic range of low-CO_2 vehicles – and the use of lightweight materials.

Fuel Economy of U.S. Ford Vehicles by Segment

Chart | Table



Miles per gallon

	Industry			Ford		
	Minimum	Average	Maximum	Minimum	Average	Maximum
Compact Cars	14	25	42	28	29	29
Large Cars	14	19	28	19	20	22
Midsize Cars	13	24	99	19	25	39
Midsize Station Wagons	19	21	22	-	-	-
Minicompact Cars	13	22	32	-	-	-
Small Pick-up Trucks 2WD	16	19	24	17	20	24
Small Pick-up Trucks 4WD	15	18	20	16	17	17
Small Station Wagons	14	25	53	-	-	-
Special Purpose Vehicle 2WD	23	23	23	23	23	23

Special Purpose Vehicle, minivan 2WD	20	21	22	-	-	-
Special Purpose Vehicle, minivan 4WD	18	18	18	-	-	-
Special Purpose Vehicle, SUV 2WD	12	21	32	15	21	32
Special Purpose Vehicle, SUV 4WD	12	19	29	15	20	29
Standard Pick-up Trucks 2WD	14	17	21	14	17	19
Standard Pick-up Trucks 4WD	12	16	21	12	16	18
Subcompact Cars	13	22	33	17	25	33
Two Seaters	10	20	37	-	-	-
Vans, Cargo Types	12	14	17	12	14	15
Vans, Passenger Type	11	13	14	11	13	14
Total	**10**	**21**	**99**	**11**	**21**	**39**

As of May 2011, many of our vehicles meet the commitment to be best in class or among the leaders in their segment for fuel economy. For example:[2]

- The 2011 Ford Edge has unsurpassed highway fuel economy among midsize crossover vehicles with V6 engines, with an EPA-estimated 19 mpg city and 27 mpg highway. The 2011 Edge also has unsurpassed horsepower in its segment.
- The 2011 Lincoln MKX has best-in-class fuel economy among luxury midsize crossover vehicles, with an EPA-estimated 19 mpg city and 26 mpg highway.
- The 2011 Ford Explorer has best-in-class fuel economy in the large utility segment, with an EPA-estimated 17 mpg city and 25 mpg highway, 25 percent better than the previous Explorer model. The Explorer with the 2.0L, I-4 EcoBoost™ engine, which will be available later in 2011, improves fuel economy by 30 percent over the previous model.
- The 2011 Ford F-150 delivers best-in-class fuel economy among full-size pickup trucks, with its 3.7L V6 4X2 option. The F-150 with a 3.5L V6 EcoBoost engine has unsurpassed fuel economy with 16 mpg city, 22 mpg highway; the 3.7L V6 has unsurpassed fuel economy with an EPA-rated 23 mpg highway; and the 5.0L V8 has unsurpassed fuel economy with an EPA-rated 21 mpg highway. The 2011 F-150 also has best-in-class torque and towing and maximum payload.[3]
- The Ford C-MAX with the 1.6L I-4 EcoBoost engine, which will be introduced in North America in the near future, is projected to have best-in-class fuel economy in the seven-passenger C-car segment.
- The 2012 Ford Focus SE with the SFE package is among the leaders in its segment for fuel economy, with an EPA-estimated 40 mpg highway, a 15 percent improvement over the previous model.
- In India, the 2010 Ford Figo with the 1.4L TDCi engine has best-in-class fuel economy for its segment at 20 km/L. Also, the Ford Endeavour 4X2 automatic with Duratorq® engine is among the leaders for fuel economy in the premium SUV segment, at 10.7 km/L.
- The 2011 Ford Fiesta SE with the SFE package, which was introduced in North America in 2010, delivers best-in-class fuel economy for its segment with an EPA-estimated 40 mpg on the highway, topping both the Honda Fit and the Toyota Yaris. The Fiesta uses the combination of a Ti-VCT 1.6L engine, PowerShift dual-clutch transmission and other fuel-economy technologies to accomplish this best-in-class performance.
- The 2011 Ford Mustang coupe with a new Ti-VCT 3.7L V6 engine and six-speed automatic transmission gets an EPA-estimated 31 mpg on the highway. This vehicle delivers superior performance – including 305 horsepower – and better fuel economy than any other V6-powered sports coupe in the world.
- The 2011 Mustang GT, featuring a new 5.0L V8, delivers up to 26 mpg on the highway – better than any competitor – as well as 412 total horsepower and 390 lb.-ft. of torque.
- The 2011 Ford Super Duty® truck with a 6.7L Power Stroke® V8 turbocharged diesel leads its class in fuel economy, towing and hauling. This engine also has significantly lower tailpipe emissions than previous models.[4]
- The 2011 Ford Escape Hybrid leads its segment with an EPA-estimated 34 mpg city.
- The 2011 Ford Ranger with an I-4 engine and manual transmission leads its segment with an EPA-rated 27 mpg highway.
- The 2011 Ford Fusion Hybrid has best-in-class fuel economy for midsize sedans, with an EPA-estimated 41 mpg city and 34 mpg highway.[5]
- The 2011 Ford Fiesta ECOnetic with 1.6L Duratorq TDCi diesel engine is one of the most fuel-efficient five-seat family cars in Europe, and it emits only 98 g/km of CO_2.
- The new Ford Mondeo ECOnetic features a specially calibrated 115 PS (85 kW) version of the 1.6L Duratorq TDCi engine equipped with a standard diesel particulate filter. Due to a combination of changes compared to the standard Mondeo, the second-generation Mondeo ECOnetic is delivering a combined fuel consumption of just 4.3 L/100km (65.6 mpg UK),[6] which translates into average CO_2 emissions of 114 g/km – an important tax break point in some European markets.
- The new Ford Focus ECOnetic, which will be launched in Europe in 2012, is expected to use less than 3.5 liters of fuel per 100 kilometers (equal to 80 mpg UK)[6] and have CO_2 emissions below 95 g/km – better than all compact cars currently on the market in Europe.

Some examples of our vehicles by region are below.

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North America

In North America, we continued to introduce new vehicles that use the technologies identified in our technology blueprint and offer outstanding fuel economy and reduce CO_2 emissions. For example, during 2010 and early 2011, we:

- Continued to introduce new vehicles with best-in-class fuel economy, including the 2011 Ford Edge, Explorer and F-150 and the Lincoln MKX, all of which have unsurpassed fuel economy in their respective segments.[7] Please see best-in-class list above for more vehicles with outstanding fuel economy.
- Introduced the Ford Fiesta, our global compact car, which uses the PowerShift dual-clutch transmission and other fuel-economy technologies to accomplish best-in-class fuel economy.[7]
- Began production of the Transit Connect Electric, the first of five electrified vehicles planned for North America by 2012. Ford is electrifying platforms – versus single vehicles – to offer customers the most choice. Three vehicles will be introduced based on the Ford Focus C-car platform: the Focus Electric, the C-MAX Energi plug-in hybrid and C-MAX Hybrid, followed by another next-generation hybrid sedan. (See the electrification case study for details.)
- Continued to expand the use of our EcoBoost engines, which significantly improve the fuel economy of gasoline engines. We will equip as much as 90 percent of our North American lineup with EcoBoost engines by 2013.

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Europe

Ford already offers one of the broadest low-CO_2 vehicle portfolios in Europe. In 2008, we began launching our ECOnetic line of vehicles. These ultra-low-CO_2 versions of select Ford diesel vehicles leverage several advanced fuel-saving technologies. The ECOnetic name was chosen because it links ecologically sensitive technology to our “energy in motion” design philosophy, which combines driving quality and emotional styling. Our ECOnetic cars use a combination of the latest common-rail diesel powertrains and other carefully selected features engineered to reduce CO_2 emissions to a minimum. These include: high-strength steels and other lightweight materials; electric power-assisted steering; an aerodynamics kit, including lowered ride height and aerodynamic details such as wheel covers and wheel deflectors; low-rolling-resistance tires; and our Auto Start/Stop and Active Grill Shutter.

With the new generations of the Ford Mondeo ECOnetic in 2011 and the new Ford Focus ECOnetic in 2012, we will extend the availability of best-in-class or among-best-in-class, extremely low-CO_2 vehicles, which now include the following:

- The Ford Fiesta 1.6L 95 PS TDCi, available since January 2009, with a fuel economy of 3.7l/100km (63.6 mpg (UK))[6], emitting only 98 g/km of CO_2.
- The new Ford Focus ECOnetic, which debuted at the Amsterdam Motorshow in April 2011 and will be launched in 2012, is expected to use less than 3.5 liters of fuel per 100km (equal to 80 mpg UK) and CO_2 emissions below 95 g/km – better than all compact cars currently on the market in Europe.
- The new Mondeo ECOnetic with a specially calibrated 115 PS (85 kW) version of the 1.6L Ford Duratorq TDCi engine equipped with a standard cDPF. Due to a combination of changes compared to the standard Mondeo, the second-generation Mondeo ECOnetic is delivering a combined fuel consumption of just 4.3 l/100km (65.6 mpg UK), which translates into average CO_2 emissions of 114 g/km – an important tax break point in some European markets.

The following table highlights the fuel economy and CO_2 improvements of the ECOnetic models introduced thus far.

Model	Fuel Economy[8] L/100km	CO_2 Emissions
2012 Ford Focus ECOnetic, with 1.6L Duratorq TDCi diesel engine	<3.5	<95 g/km
2011 Ford Mondeo ECOnetic, with 1.6L Duratorq TDCi diesel engine	4.3	114 kg/km
2011 Ford Fiesta ECOnetic, with 1.6L Duratorq TDCi diesel engine	3.7	98 kg/km

After the successful introduction of the new EcoBoost gasoline engine family in the U.S., Ford launched 2.0L and 1.6L EcoBoost engines in Europe in 2010. These turbocharged, direct-injection gasoline engines will deliver up to 20 percent better fuel economy and fewer CO_2 emissions compared to conventional gasoline engines.

In addition, our global electric vehicle plan is extending to Europe with five full electric or hybrid vehicles. Specifically, Ford will launch two zero-emission full battery electric vehicles, including the Transit Connect Electric light commercial vehicle in 2011 followed by the Ford Focus Electric in 2012. The Ford C-MAX Hybrid and C-MAX Energi plug-in hybrid will launch in 2013, together with another hybrid model.

Ford of Europe's innovative Product Sustainability Index (PSI) shows how the vision of sustainability can be made operational. By combining comprehensive sustainability criteria into the earliest stages of the product development process, Ford's PSI provides a groundbreaking design-for-sustainability tool. Designers can use it to assess the lifecycle CO_2 emissions of a vehicle, and consumers can use it to understand a vehicle's footprint.

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Asia Pacific and Africa

In our Asia Pacific and Africa region, we are focusing our near-term fuel-efficiency efforts on the systematic implementation of advanced diesel and EcoBoost engines, as well as advanced transmission technology. In China we currently offer the Ford Mondeo with an EcoBoost engine and PowerShift transmission. This product is best in its segment for fuel economy in the China market. We have also launched the Ford Fiesta with a Ti-VCT engine and six-speed automatic transmission across most of our Asia Pacific and Africa markets, making it among the leaders in its segment for fuel economy.

In India, we introduced the Ford Figo in March 2010, which has two engine options: a best-in-class, fuel-efficient 1.4L TDCi diesel and a very competitive 1.2L gasoline engine. The Figo introduction is highly significant to our success in India, as our studies show fuel economy to be the most important criteria in purchase consideration in that country.

In Australia, we will launch an EcoBoost version of the Ford Mondeo in 2011 and of the Ford Falcon in early 2012. Also in Australia, Ford's next-generation EcoLPi liquid-injection LPG system for the Falcon will go on sale in mid-2011, providing customers with the most advanced LPG technology on the market.

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South America

In South America, we are improving fuel economy by introducing some of the efficient engine and transmission technologies currently used in North America, and by using technologies specifically relevant to the widespread use of biofuels in Brazil. For example, we have implemented improved engine compression ratios – or the ratio in which the air and fuel mixture is compressed in the engine combustion chamber – on flexible-fuel vehicles in Brazil. This optimizes fuel efficiency in vehicles using biofuels, which have a higher octane rating than petroleum-based gasoline. We have also improved the gearing ratios, aerodynamics and rolling resistance of our South American models, further increasing fuel economy. We introduced a new, more-efficient "Sigma" engine on the 2010 South American Focus, which also will be extended to other vehicles. This engine will improve efficiency compared to current engines through reduced internal friction and improved electronic throttle controls. For the 2012 model year and beyond, we are planning to introduce even more fuel-efficient twin independent variable cam timing engines and direct-injection engines, Battery Management Systems, smart alternator systems, dual-clutch automatic transmissions and improved aerodynamics.

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1. These data do not include Volvo.
2. The vehicles listed here are best in class for fuel economy based on U.S. Environmental Protection Agency (EPA) segments, unless otherwise noted. Alternative segments are used where EPA segments do not provide a detailed breakdown of vehicle types. For example, the EPA only uses one category for SUVs, and it includes crossovers, compact SUVs and large SUVs.
3. F-150 fuel efficiency is compared to other high-volume pickup trucks, not including low-volume special fuel-economy models.
4. Based on a Ford drive-cycle test of comparably equipped 2011 Ford and 2010/11 competitive models. The class is Full-Size Pickups over 8,500 lbs. gross vehicle weight rating.
5. Midsize sedan segment based on the R.L. Polk segment definition.
6. This fuel economy number was calculated according to the European Fuel Economy Directive EU 93/116/EEC, which uses European drive cycles. They differ from fuel economy calculations developed in the U.S. or other regions of the world. The fuel economy figures in mpg are based on the UK imperial gallon, which is 1.2 times the U.S. gallon.
7. Based on adjusted city/highway fuel economy label values from the 2011 MY EPA Fuel Economy Guide.
8. These fuel economy numbers are calculated according to the European Fuel Economy Directive EU 93/116/EEC, which uses European drive cycles. They differ from fuel economy calculations developed in the U.S. or other regions of the world.

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Fuel

Vehicle + **Fuel** + Driver = GHG emissions

To reduce the lifecycle greenhouse gas (GHG) emissions to the levels required for carbon dioxide (CO_2) stabilization requires the development of fuels with lower fossil carbon content.[1] Such fuels could then augment improvements in the fuel economy of our vehicles.

Electrification

Electrification addresses both energy security and climate change concerns, because electricity can be made from a wide variety of fuels, including domestic sources and renewable energy. Electrification also offers flexibility in tailoring lower-carbon solutions based on locally available fuels and technology options like carbon capture and storage.

Ford foresees a future that includes a variety of electrified vehicles, something we call "Power of Choice." We are electrifying existing, traditional vehicle lines rather than creating unique electrified vehicle models. This way, our customers can choose from a variety of vehicle powertrains, including hybrid electric vehicles, plug-in hybrids, and full battery electric vehicles. Our comprehensive electrification strategy touches all aspects of the electrification ownership experience, seeking to make it engaging, empowering and easy to live with. Ford is working with partners such as Best Buy, Microsoft and MapQuest to help transition customers easily to a new form of transportation.

In late 2010, Ford delivered the initial units of its first all-electric vehicle – the Transit Connect Electric. Full production of the Transit Connect Electric will ramp up in the U.S. in 2011. Also in 2011, the Ford Focus Electric, Ford's global, all-electric car, will be sold in 19 initial U.S. markets, then expand to Europe. In 2012, we will launch our next generation of hybrids, which will include the C-MAX Hybrid, the plug-in C-MAX Energi hybrid and another hybrid, all of which will use next-generation lithium-ion batteries. In Europe, we plan to deliver the same five full-electric or hybrid vehicles by 2013.

In early 2011, we announced an innovative charging station for the Focus Electric, developed jointly with Leviton, which allows the Ford Focus Electric to charge in just over three hours when using a 240V charge station installed in the customer's garage – half the time that it takes our competitors to charge up.

By 2020, we expect that 10 to 25 percent of Ford's global sales will be composed of electrified vehicles. This includes battery electric, hybrid and plug-in hybrid vehicles, with the majority coming from hybrid vehicles, and plug-in hybrids seeing the most significant share increase.

Expanding electrification holds tremendous promise, but a range of implementation challenges must be considered. These challenges relate to cost, battery technology, the development of charging infrastructure, the interface with utilities and how to ensure that potential emissions-reduction benefits are realized. Ford is working with municipalities and electric utility partners to address many of these challenges.

Please see the Electrification section for a full discussion of electrification issues and our approach to bringing electric vehicles to market.

Biofuels

Biofuel use is expanding globally, with bioethanol made from corn, beets or sugar cane substituting for gasoline, and biodiesel derived from plant oils substituting for diesel fuel. In the U.S. in 2007, federal legislation expanded the Renewable Fuel Standard (RFS), mandating a significant increase in the use of biofuels by 2022.

While current corn-based bioethanol production in the U.S. is estimated to provide a modest (~20 percent) reduction in vehicle GHG emissions on a well-to-wheels basis, next-generation biofuels such as lignocellulosic bioethanol could offer up to a 90 percent GHG reduction benefit.[2] Building a substantial fleet of flexible-fuel vehicles (FFVs) provides a bridge to the widespread use of lower-carbon biofuels in the future.

Ford has a long history of developing vehicles that run on renewable biofuels. We produced the first flexible-fuel vehicle approximately 100 years ago: a Model T capable of running on gasoline or ethanol. Ford offers 23 models in North America, South America, Europe and Asia that can run on ethanol blends greater than E10 (i.e., containing 10 percent ethanol and 90 percent gasoline). Ford has manufactured more than five million FFVs, including 3 million in the U.S. and nearly 2 million in Brazil.

Related Links

This Report:
- Electrification: A Closer Look

In Europe, Ford is a market leader and pioneer in bioethanol-powered FFVs, with more than 70,000 vehicles delivered to customers since 2001. Ford FFV models are now available in many European markets that offer a dedicated fuel infrastructure.

In certain Asian markets, Ford offers models that are capable of operating on E20.

In the U.S., we met our commitment to doubling the number of FFVs in our lineup by 2010, and we are continuing to produce substantial numbers of E85 flexible fuel vehicles.

Alternative fuels pose a classic chicken-and-egg problem – automakers can produce a range of products capable of running on fuels with varying carbon content, but the benefits are only realized if energy providers bring the fuels to market and consumers demand both the vehicle and the fuel. Since 2006, Ford has produced more than 1.5 million flexible fuel vehicles. Yet today, less than 2 percent of refueling stations in the U.S. offer E85. And the policy shift to increase ethanol blends rather than increase E85 availability creates questions about the potential growth and viability of E85. Furthermore, the development and production of FFVs increases engineering workload and vehicle cost. This investment into FFVs becomes increasingly difficult to justify, particularly if fuel availability is not developing.

The lack of progress on E85 has increased the focus on mid-level ethanol blends. The potential introduction of such blends creates an opportunity to increase the octane rating of the new fuel. Ethanol has an octane rating greater than today's gasoline, so that when the fuels are mixed, the resulting fuel blend should have higher octane than base gasoline. Many of today's advanced engines currently on the road are programmed to improve the efficiency of the engine just short of the point where the consumer would experience engine knock. For such engines, an increase in the octane rating of the fuel would result in improved vehicle efficiency. Further improvement to engine efficiency (through increased compression ratio and downsizing) could be achieved if manufacturers knew the octane rating of the fuel will be increased.

In the long term, we believe that next-generation biofuels made from a variety of feedstocks, including agricultural wastes (particularly lignocellulosic material) will be an important part of the GHG emission-reduction equation and will help address concerns about current-generation biofuels, including the potential competition between food and fuel crops and the conversion of natural lands to fuel production. These issues are explored in more detail in the Sustainable Technologies and Alternative Fuels Plan. To learn about Ford's perspective on biofuels public policy issues, please see Climate Change Policy and Partnerships.

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1. Of course, there is not only a need to reduce the fossil carbon content of the fuel itself, but to reduce any fossil-based CO_2 emitted during feed-stock excavation, fuel production and distribution.
2. *Ethanol: The Complete Lifecycle Picture*, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy, March 2007.

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Driver

Vehicle + Fuel + Driver = GHG emissions

Paradoxically, the "driver" portion of the GHG emissions equation holds the potential for substantial emission reductions at minimal cost, but it is often overlooked. Ultimately, drivers decide which vehicles and fuels they will purchase and how those vehicles will be driven. While our major focus is on the vehicles we make, we have also reached out to drivers around the world to promote the practice of "eco-driving." We do this by providing training, information and vehicle technology that helps drivers learn how to drive using the least fuel possible.

Information Technology

Ford's in-vehicle technology system – MyFord Touch™ – offers an array of real-time information on fuel-economy performance that can coach drivers to get more miles to the gallon and save on fuel costs. In addition, MyFord Touch's map-based navigation system offers an Eco-Route option that quickly calculates the most fuel-efficient route a driver can take to get from A to B. Ford testing shows that Eco-Route can help achieve fuel economy gains of up to 15 percent. This technology will be available across our full range of vehicles, from affordable small cars to high-end luxury vehicles. It debuted on the 2011 Ford Edge and Lincoln MKX crossovers, followed by the 2011 Ford Explorer and 2012 Ford Focus in North America. By 2015, approximately 80 percent of Ford's North American models will offer MyFord Touch, with similar percentages predicted for the world market. (MyFord Touch with SYNC® will be launched in Europe in 2012, initially on the Ford Focus.)

SmartGauge™ with EcoGuide is a dashboard display in the Ford Fusion and Lincoln MKZ Hybrids that gives drivers information to help them maximize fuel efficiency. The system provides information on current fuel economy, fuel economy history, odometer reading, engine coolant temperature, fuel level, battery charge status, electric vehicle mode, tachometer, engine output power, battery output power, power to wheels, engine pull-up threshold and accessory power consumption. Drivers can use the system to track their long-term fuel economy progress and illustrate it either with a traditional chart or using an innovative display of "growing leaves and vines." The more efficient a customer is, the more lush the leaves and vines, creating a visual reward for the driver's efforts. In addition, the real-time system feedback allows drivers to assess and modify their driving habits to achieve maximum fuel economy.

The EcoMode system that was first presented in the Ford Focus ECOnetic in Europe in 2009 has been made available in a wider range of vehicles. This system monitors the key parameters for optimal fuel consumption that drivers can affect by changing their driving behavior, including gear shifting, anticipation (i.e., driving as consistently and smoothly as possible) and motorway driving (i.e., driving with the most efficient speed on highways and country roads). In addition, the system considers the percentage of cold-engine short trips. Through this monitoring process, Ford EcoMode generates a driver profile with a scoring system for these driving parameters and offers information on how to improve fuel economy over time. This process can be translated into driver advice that can help make the best use of the vehicle's technology. The system will be implemented in more European Ford models in the future and in the North American 2012 Ford Focus.

Eco-Driving Information and Training

Ford has demonstrated that drivers who practice "eco-driving" can improve their fuel economy by an average of 24 percent. Eco-driving tips are available to the public on Ford's website, and online training is available through the Ford Driving Skills for Life (FDSFL) program. In addition, a web-based eco-driving program has been available to all U.S. salaried Ford employees since 2006.

Ford began work on the eco-driving concept in 2000, when we first offered an eco-driving program through our German dealerships, in partnership with the German Federation of Driving Instructor Associations and the German Road Safety Council. That program trains drivers in conservation-minded driving and vehicle maintenance habits. It uses specially trained and certified instructors to run programs for several target groups, including fleet drivers and customers. By the end of 2009, more than 16,000 German drivers had been "eco-trained" under real-world conditions.

In 2010 Ford's eco-driving training concept was recognized as a model for driver training with a "Good Practice Energy Efficiency" award from dena, the official German Energy Agency. The recognition was for the one-hour "compact course" version of the training. All of the Ford eco-driving program details, measurements and consumer surveys were analyzed and evaluated to ensure they meet dena's stringent criteria for good practice. Ford is the only automaker to receive

Related Links

Corporate.ford.com:
- Eco-Driving

Ford Websites:
- Driving Skills for Life

this recognition for its driver training programs, which benefits both the driver and the environment.

In Asia Pacific and Africa, Ford launched the FDSFL driver training program in 2008 with a "train-the-trainers" workshop in Bangkok, Thailand. At the workshop, Ford professionals from Germany trained two to three representatives from the Philippines, Vietnam, Thailand and Indonesia. The FDSFL program was customized to address the higher average age of beginner drivers in the region, as well as the unique driving environments within each market. It places equal emphasis on safe driving and eco-driving, as customers in the region are interested in both.

In 2009 and 2010, we held "train-the-trainers" workshops in Shanghai, China, and Chennai, India, and continued with the successful roll-out of the program to China, Taiwan, India and South Africa. Australia and Malaysia will launch FDSFL programs in 2011, bringing to 10 the number of Asia Pacific and Africa markets that offer the safe driver program. More than 33,000 licensed drivers have participated in FDSFL from its launch through 2010.

Ford is also helping drivers achieve efficient driving habits through Ford UK's "Econo-Check" program. Through the program, Ford technicians install a monitoring device that collects a week's worth of data on a driver's habits. The driving data is analyzed, looking for factors that affect fuel economy – for example, acceleration, point of gear shifting, engine speed and engine coolant temperature. Ford then provides the driver with a personalized recommendation on how they can alter their driving style for maximum efficiency. The modest fee for the service also includes a check-up of the vehicle itself to identify items that could affect fuel economy.

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Facilities

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Related Links

External Websites:

- EPA Energy Star
- The Climate Registry
- Chicago Climate Exchange
- E.U. Emissions Trading Scheme

Ford has been a leader in facilities-related greenhouse gas (GHG) and energy-use reductions, public reporting of our GHG emissions, and participation in GHG reduction and trading programs.

In 2010, we adopted a goal to reduce our facility carbon dioxide (CO_2) emissions by 30 percent by 2025 on a per-vehicle basis. This CO_2 goal, which is also based on our stabilization commitment, complements our longstanding facility energy use reduction targets.

GHG Reporting Initiatives

- We were the first automaker to join The Climate Registry (TCR), a voluntary carbon disclosure project that links several state-sponsored GHG emissions-reporting efforts, including the California Climate Action Registry and the Eastern Climate Registry. As TCR members, we must demonstrate environmental stewardship by voluntarily committing to measure, independently verify and publicly report GHG emissions on an annual basis using the TCR's General Reporting Protocol.
- We were the first automaker to participate in GHG reporting initiatives in China, Australia, the Philippines and Mexico. Ford's first report was used as the template for subsequent reporting in Mexico's program.
- We voluntarily report GHG emissions in the U.S. and Canada.
- We were the first, and remain the only, automaker participating in the Chicago Climate Exchange (CCX), North America's first GHG emissions-reduction and trading program.
- Since 2005, GHG emissions from our European manufacturing facilities have been regulated through the EU Emission Trading Scheme. These regulations apply to five Ford facilities in the UK, Belgium and Spain.
- The U.S. Environmental Protection Agency (EPA) issued a final rule on September 22, 2009, establishing a national GHG reporting system. Facilities with production processes that fall into certain industrial source categories, or that contain boilers and process heaters and emit 25,000 or more metric tons per year of GHGs, are required to submit annual GHG emission reports to the EPA. Facilities subject to the rule were required to begin collecting data as of January 1, 2010, and to submit an annual report for calendar year 2010 by September 30, 2011. Many of our facilities in the U.S. will be required to submit reports. Our proactive approach and early action on GHG reporting globally has prepared us for this new requirement.
- The World Resources Institute GHG Protocol is planning to use Ford's China and South America GHG reports in their forthcoming training programs.

Our participation in these reporting, emissions-reduction and trading schemes has played an important role in accelerating our facilities' GHG emissions reduction activities.

Performance

Ford reduced its 2010 **global energy consumption** by 40 percent compared to 2000 and energy consumption per vehicle produced by 5.6 percent compared to 2009. In 2010, overall global energy consumption increased by 6.6 percent compared to 2009, due primarily to a 13 percent increase in production volume. In 2010, Ford improved energy efficiency in its North American operations by 14.4 percent indexed against our 2006 baseline year. This energy efficiency index is adjusted for typical variances in production and weather and is tracked against the baseline year to measure cumulative improvements in energy efficiency.

We reduced our total **facilities-related CO_2 emissions** by approximately 49 percent, or 4.8 million metric tons, from 2000 to 2010. During this same period, we reduced facilities-related CO_2 emissions per vehicle by 30 percent. While total CO_2 emissions increased by 13 percent from 2009 to 2010 due to increased production, per-vehicle emissions decreased by 5.6 percent. We set – and exceeded – a target to reduce our North American facility GHG emissions by 6 percent between 2000 and 2010 as part of our Chicago Climate Exchange commitment. This program ends in 2011. The Company has also committed to reduce U.S. facility emissions by 10 percent

per vehicle produced between 2002 and 2012, as part of an Alliance of Automobile Manufacturers program.

Please see the environment data section for more detail.

The U.S. Environmental Protection Agency (EPA) again recognized Ford's energy-efficiency achievements by awarding us the 2011 Energy Star Partner of the Year Sustained Excellence Award, which recognizes Ford's continued leadership and commitment to protecting the environment through energy efficiency. This is Ford's sixth consecutive year winning this prestigious award. The Energy Star Partner of the Year award requires organizations to demonstrate proficiency through the management of projects and programs, data collection and analysis, and communication actions, including community outreach and active participation in Energy Star industry forums. The Sustained Excellence level is achieved by illustrating notably consistent actions and continued improvements. Among the achievements recognized by the award is a 40 percent improvement in the energy efficiency of Ford's U.S. facilities since 2000, equivalent to the amount of energy consumed by 110,000 homes.

Energy Management Initiatives

Ford has achieved these efficiency improvements and energy use reductions by using a variety of initiatives, as described in this section. We regularly look for new technologies, approaches to the identification and definition of potential projects, funding mechanisms and means to implement plant energy-efficiency projects.

Since 2007, we have been using a **utility metering and monitoring system** to collect electricity and natural gas consumption data for all Ford plants in North America. We use this near-real-time information to create energy-use profiles for these plants and to improve decisions about nonproduction shutdowns and load shedding, which involves shutting down certain pre-arranged electric loads or devices when we reach an upper threshold of electric usage.

During 2010, we began planning to expand this system to a global scale and provide consumption data down to the departmental level. Linked with production and other data sets, this greatly enhanced near-real-time information has the following objectives:

- Assist in driving improvements in operating and turndown performance by providing departmental detail
- Allow plant-to-plant departmental comparisons
- Assist in the identification of and verification of energy-reduction efforts
- Provide common energy data metrics
- Automate feeds to systems within Ford that require energy data
- Reduce time to generate and obtain energy and environmental reports
- Improve the accuracy of and compliance with carbon-reduction reporting
- Improve energy performance dashboards and communication optimization.

Our Kansas City Assembly Plant will serve as a pilot site for this Global Departmental Level Metering (GDLM) effort.

Ford continues to use **energy performance contracting** as a financing tool to upgrade and replace infrastructure at its plants, commercial buildings and research facilities. Through these contracts, Ford partners with suppliers to replace inefficient equipment, funding the capital investment over time through energy savings. Projects have been implemented to upgrade lighting systems, paint-booth process equipment and compressed air systems, and to significantly reduce the use of steam in our manufacturing facilities. Since 2000, Ford has invested more than $226 million in plant and facility energy-efficiency upgrades.

During 2010 and 2011, for example, we packaged 40 buildings in the Dearborn, Michigan, area into a performance contract to upgrade to more-efficient lighting.

When complete, the project will reduce energy use by more than 18.2 million kilowatt-hours – enough to power 1,648 U.S. homes for a year. The project also will eliminate more than 11,000 metric tons of CO_2 emissions and cut annual costs by more than $1.3 million. The project involves switching out and retrofitting more than 50,000 light fixtures in buildings across southeast Michigan. In Ford World Headquarters alone, more than 6,000 fixtures will be replaced. Other project features include:

- Adding controls to optimize the use of daylighting
- Replacing incandescent exit signs with LED exit signs
- Controlling the lighting of unoccupied areas with occupancy sensors
- Replacing incandescent and halogen lamps with compact fluorescent and LED lamps
- Improved lighting quality, so that employees and visitors will enjoy better visual clarity and enhanced perceived brightness
- Reducing ongoing maintenance costs.

In addition, we are replicating Ford's state-of-the-art paint process that eliminates the need for a stand-alone primer application and curing oven system. This technology, called "**Three-Wet**," reduces CO_2 emissions by up to 40 percent and volatile organic compound emissions by 10 percent compared to either conventional high-solids solvent-borne or waterborne systems. In addition to these environmental benefits, this process maintains industry-leading quality and reduces costs. For example, Three-Wet reduces paint processing time by 20 to 25 percent, which correlates to a significant cost reduction. The paint formulation contains new polymers and other

additives to prevent running and sagging during the application and curing processes. Ford's laboratory tests show that this high-solids, solvent-borne paint provides better long-term resistance to chips and scratches than water-borne paint systems. The process is delivering reduced costs per vehicle, because it allows the elimination of a stand-alone primer spray booth and oven, and the attendant energy costs required to run them.

We piloted a full-production enamel line using the Three-Wet process at the Ohio Assembly Plant, which started production in March 2007. In 2009, Ford installed the Three-Wet paint process at the Chennai plant in India and the Craiova plant in Romania. In March 2010, Three-Wet vehicle production began at the Cuautitlán Assembly Plant in Mexico, and in January 2011 it was implemented at the Michigan Assembly plant in Wayne, Michigan, which is now producing the all-new Ford Focus. We are currently installing the process at the new Chongqing and Nanjing plants in China, the assembly plant for Ford of Thailand and the newly updated Louisville Assembly Plant in Kentucky. We are continuing to evaluate additional plants for Three-Wet conversion, as refurbishment actions are being planned in line with the corporate business plan.

In 2010, Ford continued the evaluation of a **new parts washing system** developed in partnership with our supplier **ABB Robotics**. Conventional parts washing systems remove dirt chemically by spraying parts with high volumes of water and detergent at low pressure. This system, in contrast, cleans parts mechanically by moving them in front of specialized high-pressure nozzles with a robotic arm. This new robotics-based system represents a significant leap forward in energy efficiency that also improves quality, flexibility, productivity and cost. It saves energy in part because, unlike previous systems, it does not require any heat. It also uses a much smaller water pump. Forty-seven of these new robotic washing machines are now in operation at Ford, and we have incorporated the technology as standard for all engine and transmission final wash applications, ensuring that the energy and cost savings will be realized by all future vehicle programs. We intend to expand the use of this technology in future programs in North America. We have also implemented robotic parts washing at our Craiova and Cologne engine plants, and are pursuing the use of this technology in China, India and Brazil.

We have also developed a system, called "**fumes to fuel**," that reduces the CO_2 emissions associated with our paint shop emissions-treatment process. In traditional paint shop emissions treatment, the volatile organic compound (VOC) emissions from solvent-based paints are captured and destroyed in a regenerative thermal oxidizer using natural gas as a fuel. In our "fumes-to-fuel" system, VOC emissions are super-concentrated approximately 2000:1. In this super-concentrated state, the VOCs themselves can be burned as fuel source, reducing the amount of natural gas necessary to destroy them. By reducing the need for natural gas, the fumes-to-fuel system has the potential to reduce CO_2 emissions by 80 to 85 percent compared to traditional abatement equipment. We are also investigating opportunities to use the super-concentrated VOCs as a fuel source for both an internal combustion engine and a fuel cell, which could be used to provide additional power to the paint shop. For more information on the fumes-to-fuel system, please see the Facilities-Related Emissions section.

Other efforts to improve the energy efficiency of Ford's plant operations include:

- Aggressively curtailing energy use during nonproduction periods
- Updating facility lighting systems by replacing inefficient high-intensity discharge fixtures with up-to-date fluorescent lights and control systems
- Installing automated control systems on plant powerhouses and wastewater treatment equipment to increase energy and process efficiency.

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Facilities

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Renewable Energy Use

Ford is actively involved in the installation, demonstration and development of alternative sources of energy.

In October 2009, two wind turbines spun into action producing "green" electricity for the Ford Genk plant in Belgium. Installed by local energy company Electrabel, each unit has an output of 2 MW of power, which is used in the manufacture of the Ford Mondeo, S-MAX and Galaxy models.

Ford's Dagenham Diesel Centre in the UK was the first automotive plant in the world to obtain all of its electrical power needs from two on-site wind turbines, which have been in operation since 2004. A third 2-megawatt wind turbine will be installed at Dagenham in 2011.

A few miles from Dagenham, Ford's Dunton Technical Centre is also powered by electricity from renewable sources. Since March 2009, electric power on the 270-acre site, which is home to a team of approximately 3,000 engineers, has been purchased from 100 percent renewable sources. The majority of the electricity, supplied by GDF, is sourced from a combination of **hydro, wind and waste-to-energy generation**, and replaces energy from traditional sources that would have produced an estimated 35,000 metric tons of CO_2 emissions annually.

Since 2008, Ford has been sourcing renewable electricity to cover the full electric power demand of its manufacturing and engineering facilities at its Cologne plant in Germany. This includes the electricity needed for the assembly of the Ford Fiesta models at the plant. Through this initiative, the company has reduced its CO_2 emissions by 190,000 metric tons per year.

In Wales, Ford's Bridgend Engine Plant was the first site retrofitted with one of the largest integrated, grid-connected **solar/photovoltaic installations** at a car manufacturing plant in Europe.

In North America, examples of installed renewable-energy technologies include a **photovoltaic array and solar thermal collector** at the Ford Rouge Visitors Center. The adjacent Dearborn Truck Plant has a "living roof" system, which uses a thick carpet of plants to reduce the need for heating and cooling while absorbing rainwater. At the Lima Engine Plant in Lima, Ohio, a **geothermal system** provides process cooling for plant operations as well as air tempering for employee comfort. This system uses naturally cooled 40°F water from two abandoned limestone quarries located on the plant site. The installation cost was comparable to that of the traditional chiller and cooling tower design that it replaced. This award-winning project eliminates the emission of 4,300 metric tons of CO_2 each year. In addition, we continue to use a landfill gas installation at the Wayne Assembly Plant.

At our Michigan Assembly Plant, we are building a **smart renewable power storage system**. We are collaborating with DTE Energy to build this stationary, battery-based energy storage facility, which will combine a 500 kW solar photovoltaic array with a 750 kW storage system to deliver 2 MWh of energy. This project will provide vital knowledge from a real-world integration of renewable energy, smart-grid technologies and battery storage infrastructure. For more on this project, please see Ford's Green Partnerships with Federal and State Governments.

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Logistics

Our logistics operations provide for the safe and efficient transport of parts from our supply base to our manufacturing plants and of finished vehicles from the end of our assembly lines to our dealerships. Though logistics accounts for a relatively small percentage of total vehicle lifecycle emissions, we are working hard to maximize the efficiency of these operations to reduce costs and environmental impacts. We have taken steps to quantify the CO_2 footprint of our logistics operations and reduce it through a variety of measures, such as shifting to rail and sea shipping and other efficiency measures. Please see the Supply Chain section for details.

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- Logistics

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Supply Chain

During 2010, we took significant steps to better understand the risks and opportunities of greenhouse gas (GHG) regulation and climate change for our suppliers and, by extension, for Ford. We have worked hard to reduce GHG emissions from our products and operations, which enhances our competitiveness, and we hope to help promote similar competitiveness throughout the automotive supply chain.

Ford was a "road tester" of the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Scope 3 Greenhouse Gas Accounting and Reporting Standard. Ford had also been an original participant in the review and development of the internationally accepted Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, which addresses Scope 1 (direct) GHG emissions and Scope 2 (indirect) emissions.

The new Scope 3 standard provides a step-by-step methodology for companies to quantify and report their corporate value chain-related (Scope 3) GHG emissions, and is intended to be used in conjunction with the GHG Protocol Corporate Accounting and Reporting Standard. It will provide a standardized method to inventory the emissions associated with corporate value chains, taking into account impacts both upstream and downstream of the company's operations. The standard covers outsourced activities, supplier manufacturing and product use. The draft standards were developed through a global, collaborative multi-stakeholder process, with participation from more than 1,000 volunteer representatives from industry, government, academia and nongovernmental organizations. The road testing process was designed to provide real-world feedback to ensure that the standards can be practically implemented by companies and organizations from a variety of sectors, sizes and geographic areas around the world.

The final Scope 3 Standard is scheduled to be published by WRI/WBCSD in September 2011.

In order to facilitate Ford's road-testing activities during 2010, Ford requested GHG emissions data from selected Tier 1 production suppliers, representing close to 30 percent of Ford's $65 billion in annual procurement spending. Based on this experience, Ford provided feedback on practical aspects of using the Scope 3 Accounting and Reporting Standard.

Ford has also joined the Carbon Disclosure Project's Supply Chain program. Through this effort, Ford is working with selected suppliers to gather qualitative as well as quantitative information about the suppliers' climate risks and emissions and how they are managing them.

We believe that supply chain GHG emissions represent both risks and opportunities for our Company and our suppliers. Thus, our continued leadership in working to better understand our full lifecycle GHG footprint is increasingly important as we seek to jointly realize operational efficiencies and reduce our emissions footprint across our corporate value chain.

Related Links

This Report:

- Logistics
- Greenhouse Gas Emissions
- Climate Change Risks and Opportunities: Supply Chain Risks

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Climate Change Policy and Partnerships

During 2010, the climate change policy landscape continued to evolve. The U.S. Environmental Protection Agency (EPA) and the U.S. National Highway Traffic Safety Administration (NHTSA) finalized a national approach to vehicle standards for 2012–16; however, growing budget deficits at national and regional levels globally decreased the emphasis on comprehensive climate policy.

Our global approach to product planning and policy participation is based on the science of climate stabilization. We accept that simply "not getting worse" is not good enough. The auto industry must work together with suppliers, government, the fuel industry and consumers to reduce CO_2 levels from transportation so we can help stabilize atmospheric CO_2 concentrations. Stabilizing CO_2 concentrations will require that all sectors of the economy, including the transportation sector, do their share. To achieve real and lasting results, all global stakeholders must make long-term commitments for a sustainable future.

In our major markets, the regulation of fuel economy and/or vehicle CO_2 emissions is becoming increasingly complex. In addition to competing federal and regional regulations, governments are taking diverse approaches to incentives for emission reductions through rebates, fees, "feebates," privileges for low-emitting vehicles and penalties for high-emitting vehicles. This creates a very complex policy environment, and it is one important driver of our strategy to develop fuel-efficient and advanced technology platforms that can be shared globally and tailored to the needs of our customers.

In the U.S. and elsewhere, Ford continues to advocate for comprehensive, market-based policy approaches that will provide a coherent framework for greenhouse gas (GHG) emission reductions, so that companies have a clear understanding of their role in achieving reductions. GHG regulations effectively regulate what vehicles we are allowed to build and sell. Carbon dioxide (CO_2) emissions standards for motor vehicles are functionally equivalent to fuel economy standards, because the amount of CO_2 produced by a vehicle is proportional to the amount of fuel used.

We hope that the information that follows helps to illustrate the diverse array of GHG and fuel economy regulations and incentives that are now shaping our markets. This section provides more detail on developments and Ford's involvement in:

- U.S. policy
  - Climate change legislation
  - Greenhouse gas and fuel economy regulation
- European policy
- Canadian policy
- Asia Pacific policy
- South American policy
- Renewable fuels policy
- Partnerships and collaboration
- Emissions trading

Related Links

External Websites:

- National Highway Traffic Safety Administration

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U.S. Policy

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Climate Change Legislation

In the U.S., the policy debate surrounding climate change has been overshadowed by other issues, including concerns over budget deficits. Nevertheless, the U.S. Environmental Protection Agency (EPA) continued to pursue greenhouse gas emissions regulations for mobile and stationary sources using their authority under the Clean Air Act. EPA and the U.S. National Highway Transportation Safety Administration (NHTSA) finalized regulations for 2012–16 model year vehicles. And in 2011, California began the first year of their Low-Carbon Fuel Standard.

Ford has participated in the public discourse on climate policy for some time. In 1999, for example, we discussed greenhouse gases in our first corporate citizenship report. In late 2005, we published a special report on the Business Impact of Climate Change, and in 2007 we joined the U.S. Climate Action Partnership to support the prompt enactment of climate legislation.

These experiences, as well as our participation in carbon markets globally, have helped to shape Ford's position on climate policy. The linked issues of climate change and energy security create an urgent need to transform the country's economy into one with lower greenhouse gas emissions, higher energy efficiency and less dependence on fossil fuels and foreign oil. This transformation will require changes in all sectors of the economy and society. A comprehensive legislative framework is needed to spur these changes.

We believe we need a comprehensive, market-based approach to reducing GHG emissions if the U.S. is going to reduce emissions at the lowest cost per ton. An economy-wide program would provide flexibility to regulated entities while allowing market mechanisms to determine where GHG reductions can be achieved at the lowest cost. The environment doesn't care where reductions occur, but the economy does, and given the potentially high cost of abatement, it is important to achieve the lowest cost possible.

As part of an integrated approach to addressing energy security and climate change, Ford supports comprehensive legislation that will create a price signal to encourage consumers to purchase more fuel-efficient vehicles. Thoughtful and comprehensive national energy and climate policy that provides a price signal is needed to support the billions of dollars being invested into low-carbon and fuel-efficient vehicle technologies. Without a cohesive policy that includes a price signal, we could be caught in an endless cycle wherein development of the advanced technologies needed to help address climate change and energy security is sporadic and not aligned with fuel providers or consumer demand.

Ford will continue to advocate for effective climate change policies that drive down GHG emissions and provide a framework for sound business and product planning.

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Greenhouse Gas and Fuel Economy Regulation

In 2009, the Obama Administration announced an agreement among the federal government, the state of California, the auto industry and other stakeholders in support of a single national program for motor vehicle fuel economy and greenhouse gas standards covering the 2012 to 2016 model years. Ford views this "One National Program" agreement as a positive step for all stakeholders toward our common goals of energy security and reduced greenhouse gas emissions.

A national program is essential for the efficient regulation of motor vehicle fuel economy and GHG emissions. It allows manufacturers to average the fuel economy and carbon dioxide (CO_2) emissions of their vehicles based on nationwide sales, which in turn enables manufacturers to formulate their product plans on a national scale. In contrast, state-by-state or regional regulations could force manufacturers to restrict the sale of some products in certain parts of the country, harming both consumers and dealers in those areas. Since CO_2 emissions do not create localized air-quality problems, state or regional standards are unnecessary, and the incremental benefits of such standards are negligible in comparison to the costs and market disruptions they would impose.

In May 2010, the Obama Administration announced plans to set a new round of light-duty motor vehicle fuel economy and GHG standards for the 2017–2025 model years. Consistent with the One National Program agreement for 2012–2016, the EPA and NHTSA are again planning to issue harmonized standards (with EPA setting GHG standards under the Clean Air Act, and NHTSA setting fuel economy standards under the Energy Policy and Conservation Act). The agencies expect to issue proposed standards in September 2010.

The California Air Resources Board is also planning to issue its own proposed 2017–2025 GHG standards at the same time. State standards are inherently incompatible with federal standards. Although California has expressed support for the One National Program framework, at this writing it is not clear whether California will ultimately defer to the federal standards as it did for the 2012–2016 time period.

Ford is committed to working constructively with all stakeholders toward the implementation of workable and effective One National Program standards for 2017–2025. For the longer term, Ford supports a legislative solution requiring One National Program, in order to head off the possibility that various agencies may promulgate and enforce multiple, inconsistent fuel economy/GHG regulations in the future.

In May 2010, President Obama announced a set of principles for the EPA and NHTSA to work together to develop a single national program for greenhouse gas and fuel economy standards for heavy-duty vehicles. As a result, in November 2010 the EPA and NHTSA proposed CO_2 and fuel consumption requirements for 2014 through 2018 model year combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. The agencies estimate that the combined proposed standards have the potential to reduce GHG emissions by nearly 250 million metric tons and save approximately 500 million barrels of oil over the life of vehicles sold during the program. Final requirements are expected to be published in late summer 2011.

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European Policy

The EU has set mandatory carbon dioxide (CO_2) targets for both cars and light commercial vehicles. The specific target for an automaker depends on the average weight of the automaker's vehicles registered in a given year. Due to the relatively low average weight of Ford cars registered in the EU, this results in stricter targets for Ford compared to the overall industry target of, for example, 130 g/km during the 2012–2015 period and 95 g/km in 2020.

The EU has also established significant regulations about other items related to climate change, such as fuels (including bio-blending), tires and gear-shift indicators, among other topics. In fact, automobiles are one of the most regulated products in the EU, with requirements also covering non-CO_2 emissions, drive-by noise, recycling, substances, electro-magnetic requirements, safety, technical aspects and more. Ford is now complying and will continue to comply with all these various targets and prohibitions with appropriate product offerings, in spite of the sudden dramatic economic downturn that had severely limited the resources available to respond.

In general, Ford is requesting that regulations and policies be well coordinated and not contradictory to each other and that they be technology-neutral, proportional, avoid double regulation, offer sufficient lead time to adjust development and production cycles and follow an integrated approach in which all stakeholders (industry, infrastructure, consumers and governments) contribute to the solution. Any CO_2 regulations should also be in line with meeting the global CO_2 target of 450 ppm.

In some member states, CO_2 taxation is in place to encourage the early introduction of low-CO_2 vehicles with major tax break points, often around 95/100 g/km, 120 g/km and 160g/km. Unfortunately, these tax break points are not harmonized between the European countries.

The industry will continue to invest heavily in research and development and new product programs in order to reach the short-term CO_2 targets. The long-term target will require technological breakthroughs, new refueling infrastructure and a swift renewal of the car fleet on Europe's roads.

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Canadian Policy

In September 2010, Environment Canada finalized greenhouse gas emissions regulations for 2011 to 2016 model year passenger automobiles and light trucks. This regulation aligns emission standards and test procedures with those of the U.S. The regulation provides companies with similar compliance flexibilities to those available under the U.S. Environmental Protection Agency's greenhouse gas (GHG) regulation, including advanced technology credits, air conditioning leakage and efficiency credits, flexible-fuel vehicle credits and credit transfer among fleets.

Environment Canada has also announced that it will regulate in alignment with the upcoming U.S. federal heavy-duty vehicle GHG regulations slated to begin with the 2014 model year. Coincident with the U.S., Environment Canada published a Notice of Intent to regulate passenger automobiles and light trucks in the 2017–2025 model years.

The Provinces of Quebec, Manitoba and British Columbia participate in the Western Climate Change Initiative and had committed to adopt GHG regulations based on California standards. Quebec has promulgated a GHG regulation based on the California standards, but with fewer flexibility mechanisms. We are hopeful that Quebec will see the benefit of a single standard for Canada, consistent with the One National Program effort in the U.S. Ford has participated in regulatory discussions on this issue, providing technical expertise and supporting a tough, aligned, national standard. British Columbia and Manitoba have both acknowledged the value of the new federal standards.

Environment Canada has also regulated renewable fuel content in on-road gasoline. Effective September 2010, renewable levels in the national pool of gasoline must average 5 percent. Environment Canada has also published a draft regulation for renewable content in diesel fuel. The proposed regulation would require 2 percent renewable content in diesel fuel starting July 2011.

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Asia Pacific Policy

In Ford's Asia Pacific and Africa region, sales in China are growing rapidly. Economic growth is a key priority of the Chinese government, to be balanced with energy security and a cleaner environment.

The China Automotive Technology and Research Center released for comment a draft national standard on Stage III fuel economy limits for passenger cars, with phase-in of implementation targeted for the 2012 model year. During the phase-in period, the ratio of the Corporate Average Fuel Consumption to the Target Corporate Average Fuel Consumption of all automakers must decline from 109 percent in 2012 to 100 percent in 2015.

The Chinese government provides limited incentives for the purchase of "new energy vehicles" (including plug-in electric vehicles) made by Chinese manufacturers for fleets under local government control. The program applies to vehicles in 13 cities initially, with plans to expand to others up to 2012. Diesel use is discouraged in passenger car applications in the near term, due to fuel availability concerns.

Japan, South Korea and Taiwan have released new or modified fuel economy limits, while Hong Kong, South Korea and Taiwan have linked tax incentives to fuel economy and carbon dioxide targets.

Ford is actively involved in dialogues with governments across Asia Pacific and Africa in a number of areas, including sustainable mobility, energy security and environmental protection.

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South American Policy

In Brazil, our largest South American market, the use of biofuels is a national policy, with 100 percent of gasoline blended with 20 to 25 percent ethanol, and extensive use of pure ethanol as motor fuel. Most new vehicles are designed to accommodate varying amounts of ethanol. A minimum of 5 percent biodiesel must be added to diesel. Emission requirements are periodically updated by an emissions-control program. A voluntary fuel economy labeling program is also in place. A star ranking for light vehicles was recently introduced, favoring low-emission, low-carbon-dioxide (CO_2), ethanol, flexible-fuel or hybrid vehicles. Diesel use in light vehicles under a one-ton payload is not allowed, except for combined-usage vehicles with special off-road characteristics. The government is also studying incentives for hybrids and electric vehicles. The federal, state and municipal environmental bodies are expected to issue their Vehicle Pollution Control Plan by June 30, 2011, and implement an In-Use Vehicle Inspection and Maintenance Program by April 25, 2012.

Other South American countries, such as Argentina and Colombia, are also significantly increasing the use of biofuels. Chile will introduce a mandatory fuel economy labeling program by September 2011, which will provide information on fuel consumption and CO_2 emissions.

Ford has supported the region's biofuels initiatives since the 1970s and offers a wide range of vehicles capable of running on 100 percent ethanol. We also provide light- and heavy-duty vehicles that meet biodiesel requirements.

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Renewable Fuels Policy

Today, more than 80 percent of global oil reserves are limited to 10 countries, while biofuels made from sugarcane can be produced in more than 100 countries. First-generation biofuels are playing an important role in building consumer awareness and spurring capital investment in infrastructure and facilities that can be used for more promising second-generation biofuels.

Ford is a leader in providing vehicles that can operate on biofuels. We met our 2010 U.S. goal to double our production of E85 flexible-fuel vehicles (those capable of using up to 85 percent ethanol), and we continue to introduce E85 flexible-fuel vehicles. These products, which we are delivering at no additional cost to consumers, go well beyond requirements and what most other automakers are doing.

Ford's vision for biofuels is for accelerated use of renewable fuels to deliver increased energy security, enhance economic development and help to address climate change. This vision includes rapidly expanding the number of vehicles that can operate on biofuels, increasing the number of stations offering biofuels, developing the fuel distribution network to support customer choice and value, and achieving technology breakthroughs to commercialize advanced biofuels.

Policies across the globe are aimed at increasing the use and availability of biofuels. The U.S. adopted a Renewable Fuel Standard requiring 36 billion gallons of biofuels by 2022, including more than 20 billion gallons of low-carbon advanced biofuels. The EU Renewable Energy Directive establishes a 10 percent renewable energy target for transportation energy in 2020. And Brazil has had a very aggressive domestic ethanol program for years.

But these policies aren't enough. Providing value is critical to engage consumers and get them to use alternative energy sources. Hundreds of millions of vehicles in operation today were designed to use ethanol blends containing less than 10 percent ethanol, and our transportation energy infrastructure was set up to deliver petroleum-based fuels.

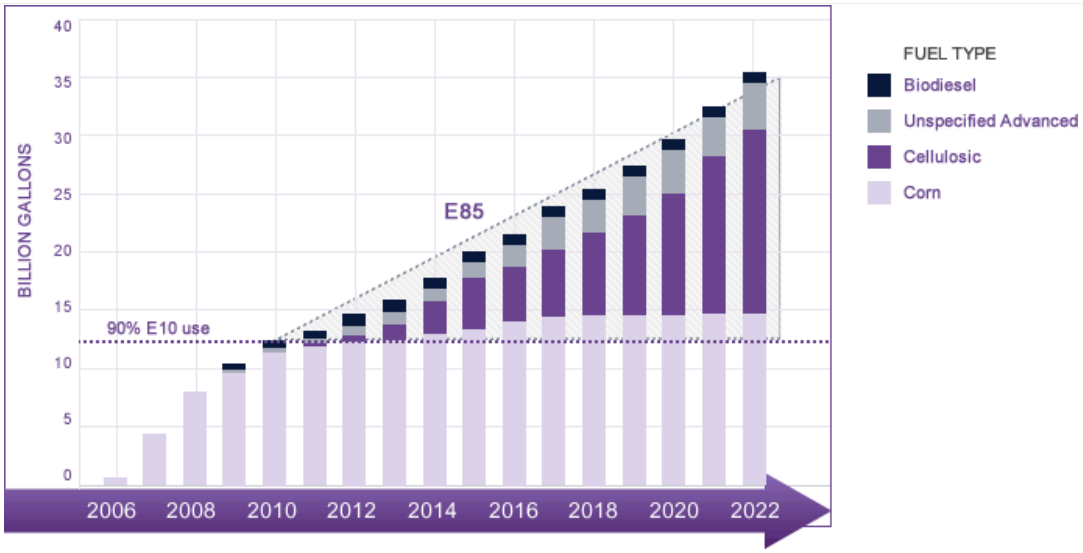
In January 2011, the U.S. Environmental Protection Agency (EPA) approved a waiver allowing the use of E15 (a blend of 85 percent gasoline and 15 percent ethanol) in 2001 and later model year vehicles.

On the one hand, we recognize the potential benefits of expanded use of E15 fuel in helping to build markets for renewable fuels. In addition, ethanol has an octane rating greater than today's gasoline, so when the fuels are mixed, the resulting fuel blend will have higher octane than base gasoline. As the octane rating of a fuel increases, it reduces the tendency for "engine knock," a condition that can, over time, lead to engine damage. Many of today's advanced engines currently on the road are programmed to improve the efficiency of the engine just short of the point where the consumer would experience engine knock. For such engines, an increase in the octane rating of the fuel would result in improved vehicle efficiency. Further improvement to engine efficiency (through increased compression ratio and downsizing) could be achieved if manufacturers knew the octane rating of the fuel would be increased.

On the other hand, the implementation of the EPA's E15 waiver presents a number of concerns. In particular, Ford is concerned about the impact the waiver will have on the legacy fleet – the millions of vehicles still on the road that were designed to operate on E10 (or E0 for very old vehicles). Although E15 is not approved for use in such vehicles, the EPA has not developed a robust program to prevent the "misfueling" of these vehicles. As a result, we anticipate a high incidence of misfueling, i.e., customers putting E15 fuel in vehicles not designed to use it. We are concerned that such vehicles will not continue to meet customer expectations for quality, durability and performance, as well as legal requirements to meet emission and on-board diagnostic regulations.

Because of the concerns cited above, we believe that the risks for automakers, fuel providers and consumers need to be mitigated and addressed before proceeding with the widespread use of E15. We have suggested that the EPA and other policymakers develop a revised, prospective plan for the introduction of E15, in a way that better ensures the fuel is only used in vehicles designed to accommodate it.

U.S. Renewable Fuel Standard


BILLION GALLONS
40
35
30
25
20
15
10
5
0
E85
90% E10 use
2006
2008
2010
2012
2014
2016
2018
2020
2022
FUEL TYPE
Biodiesel
Unspecified Advanced
Cellulosic
Corn

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Emissions Trading

Emissions trading is a key tool in both voluntary and mandatory greenhouse gas (GHG) emissions-reduction programs. Ford was an early participant in carbon markets, with a goal of gaining experience that will be valuable in an increasingly carbon-constrained world.

For example, Ford, along with 11 other companies and the city of Chicago, founded the Chicago Climate Exchange (CCX) in 2003. The CCX was a GHG emissions-reduction and trading program for emission sources and projects in North America. It was a self-regulated, rules-based exchange designed and governed by CCX members. Ford was the first and only auto manufacturing participant in the Exchange. Through the CCX, we committed to reducing our North American facility emissions by 6 percent between 2000 and 2010, and we exceeded that reduction target. CCX elected to end the emissions-reduction portion of the program after 2010, with cumulative verified emission reductions totaling nearly 700 million metric tons of carbon dioxide (CO_2) since 2003.

Ford was also one of the original companies to join the UK Emissions Trading Scheme, the first government-sponsored, economy-wide, cross-industry GHG trading program. Ford Motor Company Limited (UK) entered the program in March 2002, committing to and achieving a 5 percent CO_2 reduction for eligible plants and facilities over five years.

Ford now participates in the EU Emission Trading Scheme, which commenced in January 2005 and is one of the policies being introduced across Europe to reduce emissions of CO_2 and other greenhouse gases. The second phase of this program runs from 2008 to 2012 and coincides with the first Kyoto Commitment Period. Additional five-year phases are expected to follow.

Despite Ford facilities' low-to-moderate CO_2 emissions (compared to other industry sectors), the EU Emission Trading Scheme regulations apply to five Ford facilities in the UK, Belgium and Spain. The trading scheme requires us to apply for emissions permits, meet rigid emissions monitoring and reporting plans, arrange for third-party verification audits and manage tax and accounting issues related to emissions transactions.

Ford is actively involved in an ongoing evaluation of the EU Emission Trading Scheme at both the EU and member-state levels. We have used the experience gained from participating in the market-based mechanisms described above to ensure that we operate in compliance with the scheme's regulatory framework. Ford anticipated the start of the EU Emission Trading Scheme and established internal business plans and objectives to maintain compliance with the new regulatory requirements.

Through our participation in CCX, we built a world-class CO_2 tracking infrastructure for our facility emissions. We will continue to leverage this system to support voluntary reporting globally, to measure progress against our new facility CO_2 target, and to ensure compliance with the EU trading program and the new mandatory U.S. EPA reporting requirements.

Comprehensive reporting forms the foundation for all emissions trading. We voluntarily report GHG emissions in Australia, Canada, China, Mexico and the Philippines. This reporting, which has won several awards, is discussed in the Climate Change Strategy section.

Related Links

External Websites:

- Chicago Climate Exchange
- EU Emissions Trading Scheme

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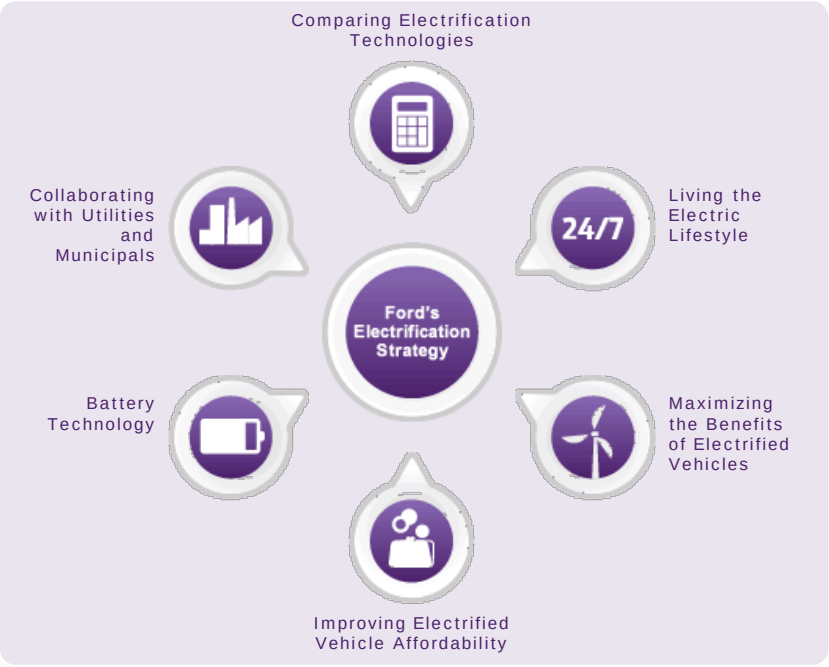
Electrification: A Closer Look



In the past few years, most major global automakers, including Ford, have announced plans to make all-electric vehicles. Utilities are also working to understand how to provide power to plug-in electric vehicles in a way that is effective in meeting consumer needs, efficient for electricity providers and environmentally sound.

Why the rise in interest and activity? The electrification of vehicles could cut greenhouse gas (GHG) emissions from vehicles, increase the use of domestic energy sources, decrease pressure on petroleum stocks and reduce urban air pollution. With the benefit of information technologies and "smart grids," electrified automobiles could also improve the efficiency of the power grid – thereby lowering electricity costs – and facilitate the use of renewable energy sources, such as wind and solar.

But many challenges remain. For example, to fulfill their potential to cut lifecycle GHG emissions from automobiles, low-carbon electric generation must make up a greater part of the total supply, and electric vehicles must become functioning parts of "smart grids." Also, battery technologies are still evolving, and the cost of new-generation batteries remains high. Working with researchers from the University of Michigan, we have assessed the global availability of lithium and compared this to the potential demand that could be created from the large-scale, global use of electric vehicles. We found that there are sufficient resources of lithium to supply a large-scale global fleet of electric vehicles through at least the year 2100. We are currently assessing the social and environmental challenges associated with the provision of rare earth elements for electric vehicles, in addition to investigating whether supplies will be adequate for future needs.

This section provides an overview of Ford's electrification strategy. It also explores electrification technologies and their environmental benefits, and discusses how Ford is addressing key challenges and opportunities related to vehicle electrification. For more details on our electric vehicle technologies and other fuel-efficiency, advanced powertrain and alternative fuels technologies, please see the Sustainable Technologies and Alternative Fuels Plan.

Living the Electric Lifestyle

To help drivers make the transition to electric vehicles (EVs), and get the most out of their EVs, we are offering more than just the vehicle. We are delivering a total electric vehicle lifestyle.

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- Ford's Sustainable Technologies and Alternatives Fuels Plan

Vehicle Websites:

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- Ford Fusion
- Ford Escape
- Ford Focus
- Ford Transit Connect
- Mercury Milan
- Mercury Mariner

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Ford's Electrification Strategy

Ford's electrification strategy foresees a future that includes different types of electrified vehicles, depending on customers' needs. There will not be a one-size-fits-all approach, but a diverse, smart application of different types of electrified vehicle technologies. Our strategy includes the following.

Power of Choice: Bringing a Range of Electric Vehicles to Market

Electrified vehicles are an important part of Ford's overall sustainability strategy and our commitment to reduce the carbon dioxide (CO_2) emissions of our fleet. We are pursuing an aggressive electrified vehicle strategy that we call Power of Choice. We believe that offering a range of electrified vehicles is the best way to reduce CO_2 emissions and meet different customers' transportation needs. Therefore, we are electrifying global vehicle lines rather than creating a special electrified vehicle model. That way, our customers can choose from a variety of electrified vehicle powertrains, including Hybrid Electric Vehicles (HEVs), Plug-In Hybrid Vehicles (PHEVs) and full Battery Electric Vehicles (BEVs). We are also delivering electrified vehicles in a range of different vehicle segments, including commercial vehicles, sedans, sport utility and crossover vehicles and luxury vehicles. We expect that 10 to 25 percent of Ford's global sales will be composed of electrified vehicles by 2020. That includes sales of HEVs, PHEVs and pure BEVs, with the majority of those sales coming from HEVs.

Ford already offers three HEVs: the Ford Escape Hybrid, the Ford Fusion Hybrid and the Lincoln MKZ Hybrid. These HEVs are ideal for customers who cover a range of distances in varied driving conditions. The most significant benefits of these vehicles come under urban stop-and-go driving. We have also announced plans to introduce an HEV version of the Ford C-MAX, a multi-activity vehicle, in North America in 2012.

In 2010 and 2011, we introduced two BEVs in North America: a BEV version of the Ford Transit Connect utility van and the Ford Focus Electric. The Transit Connect Electric is targeted at the commercial market. We developed this vehicle in partnership with Azure Dynamics Vehicles, a leading electric adapter of commercial vehicles. The Focus Electric, a BEV version of the all-new Ford Focus (which became available in North America in 2011), was developed with our strategic supplier Magna International. These BEVs will be ideal for customers who have short, predictable daily trips of less than 80 miles total.

In 2012 in North America, we will introduce our first commercially available PHEV, the C-MAX Energi.

All of these vehicles will use next-generation lithium-ion batteries. We already have a test fleet of Ford Escape PHEVs on the road in partnership with a number of utility companies, which are providing useful data for the development and implementation of commercial PHEVs.

We will also expand our electrified vehicle lineup to Europe. We will launch the Transit Connect Electric in Europe in 2011, followed by the Ford Focus Electric in 2012. The C-MAX Hybrid and C-MAX Energi, along with another still-to-be-announced HEV, will also be introduced in Europe by 2013.

Using Global Platforms

We are basing our electrified vehicle products on our highest-volume global platforms, which offers tremendous opportunities for production economies of scale. For example, the Focus Electric, C-MAX Energi and C-MAX Hybrid will all be based on Ford's next-generation "C-car" platform. Globally, we expect to build as many as 2 million vehicles per year on this platform, including the Focus, Focus Electric, C-MAX, C-MAX Hybrid, C-MAX Energi and other vehicle models. We will be producing the vehicles on flexible manufacturing lines capable of producing a BEV, HEV, PHEV or efficient gasoline- or diesel-powered vehicle, which allows us to switch production between different vehicles as needed to meet changing consumer demand. We also share many of the electrified components between the different vehicles. These strategies are key to making electrified vehicles affordable.

Delivering a Total Electric Vehicle Lifestyle

Electric vehicles have many advantages for consumers, like possibly never having to visit a gas station again. But they also require drivers to make changes to their driving routines and may cause some new anxieties, like wondering if the car has enough charge to get to the next destination. To help drivers make the transition to electric vehicles, and get the most out of their EVs, we are offering more than just the vehicle. We are delivering a total electric vehicle lifestyle.

In the U.S., for example, our EVs have advanced in-vehicle communications that help drivers

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- Our Strategy: Blueprint for Sustainability

maximize the efficiency and range of their vehicles, find charging stations along their planned routes, and know exactly how far they can go until the next charge based on their own driving style. We have also linked our vehicles to drivers' smartphones so that they can control charging and other in-vehicle operations remotely. We have also developed a comprehensive approach to vehicle charging that makes charging fast, easy, affordable and environmentally friendly. Our goal is to deliver electric vehicles that are as engaging, easy to use and empowering as other forms of consumer electronics like smartphones.

Bringing EVs to Market Thoughtfully

Ford is taking a proactive approach to making EVs successful in the marketplace. We are working with utilities, municipalities, dealers and customers to make the transition to EVs as smooth as possible. We are also targeting our initial EV offerings in markets that we believe will be able to take advantage of the full range of EVs' benefits right away. We are initially introducing the Focus Electric, for example, in 19 U.S. cities: Atlanta, Austin, Boston, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Orlando, Phoenix, Portland (Oregon), Raleigh-Durham, Richmond, San Diego, San Francisco, Seattle, Tucson and Washington, D.C. These markets were chosen based on several criteria, including commuting patterns, existing hybrid purchase trends, utility company collaboration and local government commitment to electrification.

As part of our collaboration with dealers, utilities and local governments, Ford is helping to develop consumer outreach and education programs on electric vehicles as well as share information on charging needs and requirements to ensure that the electrical grid can support customers' needs. For example, we launched a "Charging into the Future Tour" to 14 cities around the country as part of this effort. This tour promotes Ford's electric vehicle strategy, solidifies our collaborations with local utilities and municipalities to make EVs a success, and educates consumers about what to expect from electrified automobiles and what is needed from the public and private sector to support this new technology.

Collaborating with Partners

Gearing up for the development and diffusion of electrified vehicle technologies will be a global challenge. Major advances have already been made on the electrical technology at the core of the next-generation electrified vehicles, and there's more to come. In Ford's vision, a coalition of automotive manufacturers and other stakeholders will work together to develop technologies, standards and cost efficiencies to commercialize electrified vehicles. It will take a collaborative approach of automakers, battery producers, suppliers, fuel producers, utilities, municipalities, educators and researchers, as well as policy makers and opinion shapers, to help us make the transition and realize the full benefits of electrification.

Traditional automotive suppliers, transforming themselves for electrification, are being joined by new suppliers adapting electronics to the automotive environment. Significant possibilities exist for innovation in battery technology, power electronics and the development of motors, generators, high-voltage systems and other components, as well as the information technology necessary to maximize the potential of electric vehicles.

Ford's plan calls for strategic partnering with key suppliers who bring technical expertise, financial solidity and collaborative spirit. We believe that working with a range of partners will allow us to gain greater understanding of the connectivity of vehicles to the electric grid, promote the necessary infrastructure and bring down the costs of the technology to make it more accessible for consumers.

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Comparing Electrification Technologies

A range of vehicle types, from conventional gasoline to pure electric, is shown in the table below. In the near term and mid-term, the largest volume of electrified vehicles will likely be hybrid electric vehicles (HEVs), which use both a gasoline engine and a battery electric motor but do not plug into the electric grid. In the U.S., HEVs made up approximately 2.4 percent of the market for new vehicles in 2010.

In the longer term, electrified vehicles that get some or all of their energy directly from the electric grid, including plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs), are likely to play an increasingly significant role. The table below provides a generalized overview of the relative benefits and impacts of these different electrified vehicle technologies, based on typical compact C-class vehicles similar to those Ford is currently offering, or has announced will be produced in the near future, such as the Focus, C-MAX Hybrid, C-MAX Energi and Focus Electric.

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- Ford's Sustainable Technologies and Alternative Fuels Plan

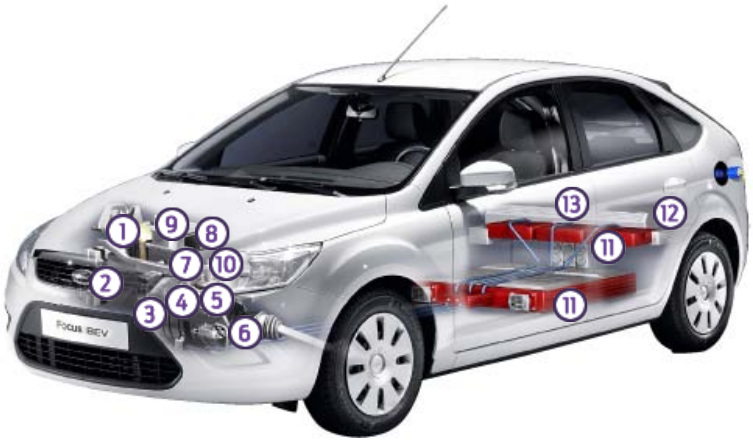
	Conventional Internal Combustion Engine Vehicle (ICEV)	Conventional ICEV with Start/Stop Technology[1]	Hybrid Electric Vehicle (HEV)	Plug-in Hybrid Electric Vehicle (PHEV)	Battery Electric Vehicle (BEV)
Technology overview	Traditional gas or diesel engine.	Traditional gas or diesel engine and powertrain with stop/start capability, which shuts down the engine when the vehicle is stopped and automatically restarts it before the accelerator pedal is pressed to resume driving. Regenerative brake recharging improves fuel economy.	Uses both an internal combustion engine and an electric motor. Can run exclusively on battery power, exclusively on gas power or on a combination of both. Also has stop/start capability and regenerative braking.	Uses a high-capacity battery that can be charged from an ordinary household 110-volt outlet. When the battery is depleted, the PHEV runs like a regular HEV[2].	Uses only a battery-powered electric motor, no gas or diesel engine. Runs entirely on electricity from batteries, which can be charged from household outlets or specialized charging stations.
Ideal driving conditions	Flexible for a wide range of uses.	Flexible for a wide range of uses. Improved fuel economy in urban driving.	Flexible for a wide range of uses. Excellent urban fuel economy and improved highway fuel economy.	Flexible for a wide range of uses. Dramatically improved fuel economy in city driving. Suitable for customers who have access to a plug at home and/or the office with daily trips around 30 miles between charges, but flexibility for longer trips as well.	Ideal for customers with access to a plug at home or work who have shorter, predictable daily trips of less than 80 miles (between charges).
Technology Benefits/Costs Based on a Typical Compact or "C-class" Sedan[3]					
Fuel economy[4] (Roughly real-world fuel economy for a compact sedan)	~33mpg	~35 mpg	~49 mpg[5]	Not applicable. Similar to HEV when running on gasoline. No gasoline used when running on electricity from the grid.	Not applicable.
Range on tank/charge[6]	~450 miles/tank	~470 miles/tank	~660 miles/tank	~690 miles on combined gas and electric power. More than 1,200 miles between visits to a gas station in typical use.	Up to 80 miles on a charge.
Fueling/charging time	Minutes	Minutes	Minutes	Minutes for gasoline 2–4 hours with a 220-volt outlet and 4–8 hours with a 110-volt outlet.	3–4 hours with a 240-volt outlet
CO_2 emissions[7]					
Well to tank	~35 g/km	~30 g/km	~25 g/km	Current grid:[8] ~100 g/km	Current grid:[8] ~130 g/km
Tank to wheels	~170 g/km	~160 g/km	~110 g/km	Current grid:[8] ~30 g/km	Current grid:[8] 0 g/km

Well to wheels[9]	~205 g/km	~190 g/km	~135 g/km[10]	Current grid:[8] ~130 g/km[11]	Current grid:[8] ~130 g/km[12]
Annual fuel cost	~$1,100–$1,800[13]	~$1,000–$1,700[14]	~$700–1200[15]	~$500 ($200 gasoline+$300 electricity)–$650 ($350 gasoline+$300 electricity)[16]	~$400[17]

Below is a detailed look at the components that will make up the new electrified vehicles.

Ford Focus Electric

1. Motor Controller and Inverter
2. High Voltage Electric HVAC Compressor
3. Electric Water Pump
4. Traction Motor
5. Electric Power Steering
6. Gearbox
7. Modular Powertrain Candle
8. Electric Vacuum Pump
9. High Voltage PTC Electric Coolant Heater and Controller
10. Vehicle Control Unit
11. Battery Pack and Battery Cells
12. AC Charger
13. DC-DC Converter



* Image based on prototype, not production vehicle.

1 Motor Controller and Inverter

The motor controller monitors the motor's position, speed, power consumption and temperature. Using this information and the throttle command by the driver, the motor controller and inverter convert the DC voltage supplied by the battery to three precisely timed signals used to drive the motor.

2 High Voltage Electric HVAC Compressor

The high voltage air conditioning system is specifically designed for hybrid vehicle applications, drawing electrical energy directly from the main battery pack. An inverter is included in the compressor.

3 Electric Water Pump

The electric drive water pump circulates coolant for the traction motor, inverters, battery and heater.

4 Traction Motor

The traction motor performs the conversion between electrical and mechanical power. Electric motors also have efficiencies three times higher than that of a standard gasoline engine, minimizing energy loss and heat generation.

5 Electric Power Steering

An electro-hydraulic steering pump was installed to assist a retuned steering rack. A production vehicle would be designed with electric power steering.

6 Gearbox

The transmission has the identical role as in a conventional vehicle; however, it has different design considerations due to the higher RPM range available from the electric motor and increased emphasis on efficient and silent operation. The transmission is a single-speed unit with a 5.4:1 reduction.

7 Modular Powertrain Cradle

This is a structure for monitoring all engine compartment EV components and providing isolation from the vehicle body through traditional engine mounts.

8 Electric Vacuum Pump

The vacuum pump supplies vacuum to the brake system for power assist.

9 High Voltage PTC Electric Coolant Heater and Controller

Heating systems are specifically designed for hybrid vehicle applications. Energy-efficient PTC technology is used to heat the coolant that circulates to the passenger car heater. Heat also may be circulated to the battery.

10 Vehicle Control Unit

The vehicle control unit (VCU) communicates with the driver as well as each individual vehicle system to monitor and control the vehicle according to the algorithms developed by the vehicle integration team. The VCU manages the different energy sources available and the mechanical power being delivered to the wheels to maximize range.

11 Battery Pack and Battery Cells

The battery pack is made up of seven battery modules of 14 cells – 98 cells total for 23 kWh of power. The batteries are air cooled using existing vehicle cabin air. The pack includes an electronic monitoring system that manages the temperature and state of charge of each of the cells.

12 AC Charger

Power electronics are used to convert the off-vehicle AC source from the electrical grid to the DC voltage required by the battery, thus charging the battery to its full state of charge in a matter of hours. The current charger is air cooled. The production design will accommodate both 110 and 220 voltage sources.

13 DC-DC Converter

A DC-DC converter allows the vehicle's main battery pack to charge the on-board 12V battery, which powers the vehicle's various accessories, headlights and so forth.

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1. Some automakers consider this a form of hybrid vehicle. However, Ford views and is implementing these technologies as part of our strategy to improve the fuel economy of conventional internal combustion engine vehicles. We assume start/stop technology can provide up to 10 percent fuel economy improvement in city driving.
2. Another type of PHEV, often called an Extended Range Electric Vehicle, runs entirely on battery power until the battery is depleted, and then the onboard gas-powered engine runs to recharge the battery. The wheels are driven only by the electric motor, and the engine's sole purpose is to recharge the battery.
3. These numbers are for comparison purposes only. They are based on modeling and testing calculations and do not necessarily represent the numbers that would be achieved in real-world driving conditions, nor do they represent actual products that Ford currently makes or may produce.
4. The internal-combustion engine fuel economy estimate is based on the calculation used by the U.S. Environmental Protection Agency to develop Combined Fuel Economy (city/highway) values for the labels affixed to new vehicles. The Combined Fuel Economy value is intended to represent the approximate fuel economy that most consumers can expect based on a typical mix of city and highway driving. Estimates for the other technologies are based on the metro-highway drive cycle used for the U.S. fuel-economy regulations. Fuel economy calculations for all of the technologies are based in U.S. gallons and on U.S. drive cycles.
5. In general, HEVs deliver approximately 40–50 percent better fuel economy than comparably sized non-hybrids.
6. All estimates are based on a 13.5-gallon tank except for the BEV, which has no fuel tank.
7. In vehicles using internal combustion engines, the fuel feedstock is assumed to be petroleum gasoline.
8. "Current grid" assumes average current emissions from U.S. power generation.
9. "Well to wheels" carbon dioxide (CO_2) includes all CO_2 emissions generated in the process of producing the fuel or electricity as well as the CO_2 emissions created by burning the fuel in the vehicle itself. It is useful to break this down into "well to tank" emissions, which measure the CO_2 emissions generated by excavating the feedstocks and producing and distributing the fuel or electricity, and "tank to wheels" emissions, which include the CO_2 generated by burning the fuel in the vehicle. "Well to tank" emissions are based on the GREET v. 1.8d.0 model developed by the Argonne National Lab. "Tank to wheels" calculations are based on Ford's estimates using the metro-highway drive cycle and energy use for a C-class electric vehicle.
10. In HEVs, the fuel feedstock is assumed to be petroleum gasoline.
11. In PHEVs, the "well to tank" emissions are based on the percentage of emissions from gasoline fuel production and distribution and electric power generation, and the "tank to wheels" emissions are based on the percentage of time the vehicle is driven using gasoline.
12. In BEVs, "well to tank" emissions include emissions related to electric-power generation, and "tank to wheels" emissions are zero, because no CO_2 is produced by running the vehicle on batteries charged with electrical power.
13. Based on 12,000 miles/year, 33 mpg and $3–5/gallon.
14. Based on 12,000 miles/year, 35 mpg and $3–5/gallon.
15. Based on 12,000 miles/year, 49 mpg and $3–5/gallon.
16. Based on 12,000 miles/year, 70 percent in electric mode at 3.5 miles/kWh (midpoint of range of 3–4 miles/kWh in electric mode) and 12 cents/kWh, and 30 percent in gasoline-engine mode at 49 mpg and $3–5/gallon.
17. Based on 12,000 miles/year, 3.5 miles/kWh (midpoint of range of 3–4 miles/kWh for a typical BEV) and 12 cents/kWh.

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Living the Electric Lifestyle

To help drivers make the transition to electric vehicles (EVs), and get the most out of their EVs, we are offering more than just the vehicle. We are delivering a total electric vehicle lifestyle. In the U.S., for example, our EVs have advanced in-vehicle communications that help drivers maximize the efficiency and range of their vehicles, find charging stations along their planned routes, and know exactly how far they can go until the next charge based on their own driving style. We have also linked our vehicles to drivers' smartphones so that they can control charging and other in-vehicle operations remotely. We have also developed a comprehensive approach to vehicle charging that makes charging fast, easy, affordable and environmentally friendly. Our goal is to deliver electric vehicles that are as engaging, easy to use and empowering as other forms of consumer electronics like smartphones.

Enhanced In-Vehicle Information with MyFord Touch™

In several regions, including the U.S., our electric vehicles will include an enhanced version of MyFord Touch – Ford's new driver interface technology – that will give drivers a range of information tools to help them maximize their driving range, plan the most eco-friendly route and manage the battery recharge process. For example, the system will provide vehicle data such as the electrical demands of vehicle accessories – including air conditioning, which influences electric driving range. The system will also provide information on the battery's state of charge, distance to charge points, "energy budget" and expected range surplus.

We designed the Focus Electric to provide more range at full charge than most Americans will use each day. But we know that, at least initially, "range anxiety" will be an important issue for consumers. So we have designed in-vehicle communications to make on-board energy management a rewarding and fun part of the ownership experience. For example, the vehicle can analyze individual driving styles, as well as climate control and other options, to provide tailored information about range and remaining charge. Drivers who drive slowly and smoothly will get a longer range out of their car than those who drive more aggressively. But our in-vehicle information systems can adapt to any way you choose to drive. The Focus Electric will continuously analyze a driver's style, recalculate range and distance to required charge, and show how driving behavior affects the vehicle's energy budget. The system can also coach drivers on how to drive more efficiently to maximize their electric driving range.

The system also includes a trip planner feature to help drivers plan their trip based on the available battery range and the location of charging stations. The trip planning system integrates information about driving style and the driving efficiency "coach" to help drivers go farther on their remaining charge by maximizing regenerative braking, turning down the air conditioning or other efficient driving actions.

The Focus Electric's in-vehicle information is also customizable. For example, information can be viewed in three different modes: Energy Budget, which shows the remaining charge; Range, which shows the distance to the next required charge point; and Surplus View, which shows drivers how much energy or range they are saving using different options and by driving efficiently. The system also uses a variety of simple graphics like an energy "budget cup" and surplus energy "butterflies" that make it easy for drivers to quickly interpret information.

Remote Control with MyFord Mobile™

Drivers will also be able to manage their Focus Electric remotely using the Ford-developed MyFord Mobile app in the U.S. Like any Ford vehicle equipped with MyFord Touch, our electric vehicles allow drivers to locate the vehicle with GPS, remotely start the vehicle and remotely lock and unlock the car doors using their smartphone. On our electric vehicles, however, the MyFord Mobile app provides a suite of additional remote communications. For example, working with MapQuest®, MyFord Mobile can communicate the location of a charge station to the Focus Electric using the Traffic, Directions and Information program in the Ford SYNC® system. Drivers can also get instant vehicle status information, monitor the car's state of charge and current range, get alerts when it requires charging, remotely program charge settings and download vehicle data for analysis from their smartphone or a secure Ford website.

The MyFord Mobile app also allows drivers to tell their vehicle to use electricity from the grid to heat or cool the battery and cabin while the vehicle is still plugged in. This "preconditioning" of the vehicle's temperature is a key strategy drivers can use to maximize their driving range.

MyFord Mobile for EVs also adds a social element. Drivers can compare their driving efficiency to that of friends and other EV drivers. In addition, the system gives drivers virtual awards and badges for improvements in driving efficiency.

All of the vehicle's screens and control panels are integrated into the MyFord Mobile app's smartphone display, so that drivers can move seamlessly from their car to their phone displays.

Fast, Flexible and Easy Charging

Charging is one of the most important changes drivers have to get used to with a BEV or PHEV. We have gone to great lengths to make our charging systems fast, easy and economical.

The Focus Electric uses a 6.6 kW charger, which enables a best-in-class at-home charge time of just over three hours when using a 240V charge station installed in the customer's garage. That's half the time it takes our competitors to charge up.

U.S. drivers can also customize their charging preferences. Drivers can choose times when their car must be charged up and ready to go and set up a charging schedule that dictates when the charging starts and stops to meet those needs. They can also control vehicle charging using Value Charging by Microsoft, a system that communicates with local utilities and sets up charging times based on when utility rates are lowest in their area. Customers can reduce their electricity costs by taking advantage of off-peak or other reduced utility rates without a complicated setup process. With this technology, customers will be able to "set it and forget it," knowing their vehicle will only charge when utility rates are at their lowest. Ford electric vehicles are the first to work with this Microsoft system. Because Ford's EVs charge in half the time of competitors, we make it easier to get a complete charge within the time periods of the lowest utility rates.

We are also making charging easier with an easy-to-read "light ring" around the charge port. When the plug is connected, the light loops around the port twice. The light ring then illuminates in quadrants as the vehicle charges. Flashing quadrants signify that the charge is in progress. When the ring is solidly lit, the vehicle is fully charged.

We put a lot of thought into the actual charging station into which drivers will plug their vehicles. We are currently the only auto manufacturer to offer a "plug-and-play" charging system that is easy to install and portable, so you can take it with you if you move or move it to a new location in your existing garage. In the U.S., we worked with Leviton to develop a simple, ergonomic, easy-to-use charge station and with Best Buy to provide Best Buy/Geek Squad installation services. The set-up process is quick and easy for our customers and saves them as much as 30 percent on a charge station, versus the competition.

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Maximizing Environmental Benefits of Electrified Vehicles

Full battery electric vehicles (BEVs) are considered "zero emission" because they don't release greenhouse gases or other pollutants during use. But that term can be misleading, because it takes electricity to charge the vehicle, and the power plant generating the electricity may also generate incremental emissions. Electric vehicles do reduce pollutants generated by burning petroleum fuel in the vehicle in proportion to the reduction in vehicle fuel consumption. However, replacing gasoline with electricity generated from coal, for example, results in emissions at the power plant, including carbon dioxide, nitrous oxides, sulfur dioxide, volatile organic compounds, carbon monoxide and particulate matter. As a result, the environmental benefits of BEVs and plug-in hybrid electric vehicles (PHEVs) depend largely on the fuels used to power the electrical grid. Operating a PHEV or BEV on the current average U.S. electrical grid, which relies heavily on coal power, has little emission advantage over a hybrid electric vehicle (HEV). (See the well to wheels carbon dioxide (CO_2) emissions figures on the Comparing Electrification Technologies page.)

Plug-in vehicles could help to reduce overall CO_2 and other emissions if the electricity used to charge them were generated from cleaner fuels, and ideally renewable resources, which produce significantly fewer emissions than the coal and natural gas that are often used for power generation. In addition, "smart grids" that include grid-to-vehicle communications would enable utilities to make more-efficient use of electricity supplies, thereby potentially reducing emissions and electricity costs.

Energy Security Benefits of Electric Vehicles

The current energy demand for transportation is almost exclusively met by petroleum. In the U.S., for example, approximately 94 percent of transportation energy demand is provided by petroleum. The near-complete dependence of a vital economic sector on an import-dominated energy resource is clearly an issue of concern. One of the major benefits of increasing the proportion of electrified vehicles in the U.S. fleet is that it will diversify the transportation energy demand and provide increased energy security. HEVs reduce petroleum demand by increasing efficiency. PHEVs reduce petroleum demand due to increased efficiency and also switch some of the energy demand from petroleum to other sources. BEVs remove entirely the need for petroleum.

To realize the potential benefits of vehicle electrification, a range of issues must be addressed, including strategies to maximize their environmental benefits. Vehicle and fuel technologies interact in a complex system that includes vehicle technologies, battery technologies, fuel types and energy-generation technologies, all of which determine potential impacts on the environment and energy security.

Ford alone cannot solve these issues. However, we are working with partners, such as utilities, to make a contribution to maximizing the environmental benefits of electrified vehicles. We are also implementing technologies that will help customers drive their electrified vehicles to maximize efficiency, increasing other green features of our electric vehicles and implementing green manufacturing processes at our electric vehicle plants.

Maximizing Vehicle Efficiency

Electric vehicles are inherently more efficient than gasoline vehicles. Electric motors are more efficient in converting stored energy into vehicle propulsion than traditional internal combustion engines. Internal combustion engines can typically only use about 15 percent of the onboard fuel energy to power the vehicle, while electric motors have nearly 80 percent onboard efficiency. In addition, electric-drive vehicles do not consume energy while at rest nor coasting, and as much as one-fifth of the energy typically lost when braking is captured and reused through regenerative braking.

Ford has made it a priority to further maximize the efficiency of our electric vehicles. We optimized every system in the vehicle to ensure it would be as "electron efficient" as possible. In addition to using the latest technology for the battery and the rest of the electric-drive components, we have maximized efficiency through improved aerodynamics and low rolling resistance. In addition, we used our knowledge from two generations of hybrid electric vehicles to enhance the Focus Electric's range and efficiency through regenerative braking.

Maximizing Driving Efficiency

Our in-vehicle information systems also help drivers maximize their own driving efficiency to further increase the distance they can go on a single charge and reduce the overall costs of operating an EV. As described in Living the Electric Lifestyle, our electric vehicles can coach drivers how to drive more efficiently by changing their driving style, maximizing regenerative braking or minimizing the use of air conditioning. The vehicle information systems also provide information on range and vehicle energy use to help drivers track and maximize their driving

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efficiency.

Maximizing Charging Efficiency

The most important strategies for maximizing the efficiency and environmental benefits of electric vehicle charging require changes to the electrical grid and the fuels used to power it. Both increasing the use of renewable energy sources and investing in smart grid technologies will help to improve the environmental benefits of EVs. Many of these issues are beyond Ford's control. However, Ford is working with utilities and municipalities to make the most of electric vehicles' advantages. We are also doing what we can to provide efficient and environmentally friendly charging options.

- Using renewable energy: Recharging using electricity generated by renewable energy sources (such as solar, wind, hydropower or biomass) can cut CO_2 emissions dramatically. Smart vehicle-to-grid communication can help utilities better use renewable energy sources. For example, it can allow vehicles to recharge when wind power is most available (usually at night) or during the day from solar arrays, depending on the renewable source available and its output. As the power-generation sector continues to improve its fuel mix, the environmental impact of driving a plug-in vehicle will diminish substantially – perhaps even toward zero.

  Adding more renewable fuel sources to electrical grids will take time. Ford is working with utility partners to develop home-based solar recharging stations that will allow EV owners to obtain the power they need to charge their vehicles from renewable sources, even if the overall electricity grid powering their home has not shifted to renewable.

- "Smart grids and smart charging:" The development of "smart grid" technologies, which can provide utilities and customers with real-time information on energy use and energy prices, is a key enabler of efficient integration of electric vehicles and grids, and an important strategy to maximize EV efficiency and environmental benefits.

  Smart grids will help make the electrical grid and electrical vehicle charging more efficient by channeling vehicle recharging to times when electrical grid resources are currently underutilized. Since demand for electricity fluctuates (generally peaking in the afternoon and dropping off at night), utilities typically use a mix of fuels and power plant types to meet demand. That means the environmental impacts of electric vehicle use will vary depending on where and when the vehicles are charged. During certain seasons and particularly at night, utilities generally have excess generation capacity – unused resources that create financial inefficiency. Charging PHEVs and BEVs during these off-peak hours, when this excess capacity is available, can increase the overall efficiency of the electric grid – potentially reducing CO_2 emissions, as well as the cost of electricity. But if PHEVs and BEVs are charged at peak times, that could create increased CO_2 emissions from power generation and also create demand for additional power plants. Utilities have a role to play in educating electrified-vehicle users and providing them with incentives to charge their vehicles at the most beneficial times.

  With all these variables, utilities will be key partners in defining and developing electricity supply systems for electric vehicles that are efficient, affordable and environmentally sound. That's why Ford has partnered with several utilities throughout the U.S. and Canada, as well as with the U.S. Department of Energy, for its PHEV pilot program. For more information on our work with utilities, please see Collaborating with Utilities and Municipalities.

- Value Charging by Microsoft, which is available first on Ford U.S. vehicles, also helps to maximize the efficiency of charging and the environmental benefits of EVs. This system communicates with local utilities to find off-peak times to charge, which helps to prevent the need for infrastructure upgrades to support added energy demand and reduce the production of additional CO_2. Ford and Microsoft plan to continue to work with utility partners and municipalities to help further develop systems to maximize the effectiveness of electric vehicles and their interaction with the electricity grid.

A Holistic Environmental Approach

Reducing emissions and maximizing vehicle efficiency are just some of the elements of our strategy to maximize the environmental benefits of EVs. We are also using green power and green technologies to manufacture our EVs, and we are using green materials in our electrified vehicles and charging stations. The Michigan Assembly Plant, for example, which will produce the Focus Electric, C-MAX Energi and C-MAX Hybrid, in addition to the standard gas-powered Focus, will be powered by the largest solar array in the state of Michigan. We have partnered with DTE Energy to build this solar panel system at the plant. We are also working with DTE Energy to develop a stationary battery energy storage system that will store excess power produced by the solar array until it is needed in the plant. This battery storage system will use electric vehicle batteries that have reached the end of their useful lives in vehicles. This approach provides a second life for vehicle batteries, which reduces waste and maximizes the efficiency of solar power. The plant also draws power from local landfill gas, making productive use of methane generated from decaying trash, which reduces emissions of this potent greenhouse gas. The plant also uses solar-powered tugs, which move vehicles and parts around the plant. See the Michigan Assembly Plant case study for more details on these green manufacturing strategies.

Ford is also using green materials in our HEVs, BEVs and PHEVs, as well as many of our other vehicles, to further maximize their environmental benefits. For example, our existing HEVs use recycled-content seat fabrics. The Escape Hybrid, as well as the gas version, has been using soy foam seats for several years. Starting in 2011, all of our U.S. vehicles will use soy foam, including the Focus Electric. The Focus Electric will also use a material called Lignotock behind the cloth on

the door. Derived from 85 percent wood fibers, this renewable material reduces weight and provides better sound-deadening benefits compared to conventional glass-reinforced thermal plastics. In addition, the vehicle-charging stations we developed with Leviton use 60 percent recycled materials. For more information about our use of green materials in vehicles, please see Sustainable Materials.

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Improving EV Affordability

The current cost to make plug-in vehicles is substantially higher than that of conventional vehicles, largely due to the cost of batteries. Depending on electricity costs, however, the energy cost to operate an all-electric car is in the range of 3 to 4 cents per mile, compared to about 8 to 16 cents[1] per mile for a conventional gasoline-powered vehicle. So, lower operating costs can help to offset the higher initial purchase costs of electric vehicles (EVs).

Automakers will need to invest billions of dollars to develop next-generation electrification technologies and electrified vehicles. Utilities will need to invest to increase electricity generation and transmission capacity, with generally higher costs for green electricity sources. Governments will also need to invest by encouraging and facilitating the development of technology and infrastructure and providing incentives for consumers to buy EVs. Ford is doing what it can to reduce the costs of manufacturing and operating EVs.

Reducing Vehicle Production Costs

We are planning our electric vehicle strategy based on our highest-volume global platforms, which can help to reduce the costs of electric vehicles by creating economies of scale. For example, the Focus Electric, C-MAX Hybrid and C-MAX Energi plug-in hybrid are all based on our global C-platform, which we expect to underpin 2 million vehicles annually.

We are using best-in-class flexible manufacturing technology in our Michigan Assembly Plant, which will produce the Focus Electric, C-MAX Hybrid and C-MAX Energi, as well as the gas-powered Focus. Flexible manufacturing allows us to switch production between different vehicles to meet changing customer demand without retooling our plant or assembly lines – a significant cost reduction.

Ford is working with a range of battery suppliers and other partners to develop next-generation battery technologies that will help to bring costs down. Please see Battery Technology for more information on advanced batteries for EVs.

Reducing Vehicle Operation Costs

The fuel costs of battery electric vehicles (BEVs) are significantly lower than for gasoline-powered vehicles. We are taking a range of steps to reduce the operating costs of EVs to help offset their higher purchase price.

Through our partnership with Microsoft to deliver Value Charging powered by Microsoft, we are helping EV owners find the most efficient times to charge their vehicles. This system helps customers reduce their electricity costs by taking advantage of off-peak or other reduced utility rates without a complicated setup process.

The MyFord Touch™-based in-vehicle communications systems on our electric vehicles, described in Living the Electric Lifestyle, also help reduce EV operating costs by enabling drivers to maximize their driving efficiency and in-vehicle energy use.

Our BEVs will also have lower maintenance requirements than gas-powered vehicles. The Focus Electric eliminates more than two-dozen mechanical components that would normally require attention during the life of the vehicle. So, for example, drivers won't have to get oil changes or change oil filters, fuel filters or spark plugs, or worry about a worn-out muffler or serpentine belt. Based on a regular oil change maintenance schedule, Focus Electric owners will save approximately $500 over the 150,000-mile life of the vehicle on oil change costs alone.

1. Assuming an energy consumption of about 3 to 4 miles/kWh at 12 cents/kWh for the electric vehicle, and a fuel economy of 30–40 miles/gallon at $3–$5/gallon for the gasoline vehicle.

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Battery Technology

Current-generation hybrid electric vehicles (HEVs) run on nickel metal hydride batteries, which offer significant improvements over traditional lead-acid batteries. For example, nickel metal hydride batteries deliver twice the power output for the weight (energy density) compared to lead-acid batteries. Nickel metal hydride batteries have worked well in non-plug-in hybrids, which are designed to allow for constant discharging and recharging and are not expected to store and provide large amounts of energy. These batteries are reaching the end of their advancement potential, however, and new battery technologies are needed to improve on the current generation of HEVs.

Plug-in hybrid electric vehicles (PHEVs) and pure battery electric vehicles (BEVs) make significant additional demands on battery technology. Unlike HEVs, which maintain a relatively constant state of charge, PHEV batteries are to be depleted to a low level when they are the primary energy source for the vehicle. And BEVs are designed to run solely on battery power. The batteries used in PHEVs and BEVs must function well in a wide range of conditions; tolerate running until nearly depleted and then being fully charged; store and provide a lot of power; last a minimum of 10 years or 150,000 miles; and, ideally, be compact and lightweight.

Automakers are moving toward lithium-ion batteries for next-generation HEVs and for PHEVs and BEVs. These batteries have greater energy density and are lighter than nickel metal hydride batteries. However, the technology is still evolving, and costs are still relatively high. (See the section on Battery Evolution below).

It is also important to have a plan for recycling batteries at the end of their useful lives to minimize the material going to landfill, and to ensure that critical elements, such as rare earth metals and lithium, are recovered and reused in new batteries.

Battery Evolution

Battery technology is evolving. The following table shows how new battery technology, such as the nickel metal hydride batteries used in today's HEVs and the lithium-ion battery technology of next-generation electrified vehicles compare to the traditional 12-volt lead-acid battery.

	Lead-Acid	Nickel Metal Hydride (Ni-MH)	Lithium-Ion (Li-ion)
First commercial use	1859	1989	1991
Current automotive use	Traditional 12-volt batteries	Battery technology developed for today's generation of hybrid vehicles	Under development for future hybrid electric and battery electric vehicles; some manufacturers launching in limited volumes in 2010
Strengths	Long proven in automotive use	Twice the energy for the weight compared to lead-acid Proven robustness	About twice the energy content of Ni-MH and better suited to future plug-in electrified vehicle applications By taking up less space in the vehicle, provides far greater flexibility for automotive designers
Weaknesses	Heavy; its lower energy-to-weight ratio makes it unsuitable for electrified vehicle usage	High cost (four times the cost of lead-acid); limited potential for further development	Although proven in consumer electronics, this technology is still evolving for automotive applications Will remain relatively expensive until volume production is reached
Specific energy (watt hours per kilogram)	30–40	65–70	100–150
Recyclability	Excellent	Very good	Very good

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- Water

Ford has been working with battery supplier partners to develop next-generation battery technologies that can improve HEV performance and stand up to the new challenges presented by BEVs and PHEVs. For example, the performance of batteries varies with weather conditions. We are conducting tests of the effects of temperatures and other conditions so we understand and can communicate to customers the impacts on expected range between recharging.

Ford is also working with researchers at the University of Michigan and the Massachusetts Institute of Technology to develop and test improved lithium-ion battery technology.

All of Ford's electrified products, including HEVs, PHEVs and BEVs, will use lithium-ion battery cells by 2012. Lithium-ion battery packs offer a number of advantages over the nickel metal hydride batteries that power today's hybrid vehicles. In general, they are 25 to 30 percent smaller and 50 percent lighter, making them easier to package in a vehicle, and they can be tuned to increase power to boost acceleration, or to increase energy to extend driving distance.

The Focus Electric will be powered by a lithium-ion battery system that utilizes cooled and heated liquid to regulate battery temperature, extend battery life and maximize driving range. The innovative thermal management technology helps the Focus Electric operate efficiently in a range of ambient temperatures. Thermal management of lithium-ion battery systems is critical to the success of all-electric vehicles, because extreme temperatures can affect performance, reliability, safety and durability.

Ford is also developing a comprehensive strategy to address batteries that can no longer be used in vehicles. For example, we are working with DTE Energy to develop stationary energy storage systems from vehicle batteries that have reached the end of their useful life in vehicles. For more information on this project please see the Michigan Assembly Plant case study. In addition, Ford engages with all the parties that handle end-of-life batteries, including customers, local authorities, emergency services (e.g., tow trucks), dealerships, independent workshops and garages and vehicle recyclers. Customers can recycle their batteries with local recyclers or bring them to any Ford or Lincoln dealer for no-cost recycling.

Supply Chain Issues

As the widespread electrification of automobiles moves closer to reality, a new set of concerns is emerging regarding the environmental and social impacts of extracting and processing key materials needed to make electric vehicles. There are concerns about lithium (used to make the lithium-ion batteries that are widely used in consumer electronics and will be used in BEV and PHEV vehicles) and rare earth metals (which are used in electric motors for vehicles, wind turbines and other advanced technologies).

Significantly accelerating the production of electric vehicles is likely to require the use of much greater quantities of lithium and rare earth metals. Currently, production of these resources is concentrated in a few countries, including Chile, Bolivia and China, which has led to questions about the adequacy of the supply of these resources and the potential for rising and volatile prices as demand puts pressure on existing supplies. In addition, there are concerns about geopolitical risks posed by the limited availability of these materials. Could we be trading dependence on one limited resource (petroleum) for another? Attention is also focusing on the possibility of risks such as bribery and corruption and the potential for environmental and human rights abuses. Finally, the use of water in the production of these materials needs to be considered.

We take these concerns very seriously. We have conducted and published a study of lithium availability and demand with scientists at the University of Michigan. We found that there are sufficient resources of lithium to supply a large-scale global fleet of electric vehicles through at least the year 2100. The use of water during lithium production is typically very low. We are conducting a study of rare earth element availability and demand with scientists at the Massachusetts Institute of Technology. Ford generally does not purchase raw materials such as lithium and rare earth metals directly – they are purchased by our suppliers (or their suppliers) and provided to us in parts for our vehicles. As described in the Supply Chain section of this report, our contracts with suppliers require compliance with the legal requirements of Ford's Code of Basic Working Conditions and the adoption of a certified environmental management system (ISO 14001). We are working in our supply chain to build the capability of our suppliers to provide sound working conditions in their operations, and we assess compliance with our Code of Basic Working Conditions in target markets. We ask the suppliers we work with to take similar steps with their suppliers. We are also working cooperatively with other automakers to extend this approach through the entire automotive supply chain.

As part of our water strategy, we are evaluating the water requirements and impacts of powering vehicles with conventional fuels, biofuels and electricity. This work includes a study of the water requirements of lithium extraction and processing (which, based on our understanding of the extraction of lithium from brines in arid areas, we anticipate will be low).

We will continue to monitor and assess these issues for their potential impact on our electrification strategy and our sustainability commitments.

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Collaborating with Utilities and Municipalities

Clearly, electric vehicles (EVs) will have an impact on electric utilities. If EVs are charged during times of peak electricity demand, they may stress the current grid and require the construction of additional electricity supply. Furthermore, recharging vehicles during peak demand would significantly reduce the operating cost benefits expected from electric vehicles. To maximize recharging efficiency and minimize stress to the grid, "smart grid" technology that allows communication between recharging vehicles and the electrical grid will be required. Automakers and utilities will have to work together to develop this "smart" vehicle-to-grid communication system. Overcoming these challenges will require significant collaboration between automakers, electric utilities and governmental regulatory agencies and legislators.

Because utilities and automakers have not had to work together in the past, effective collaboration requires developing new relationships and learning about each other's business and regulatory challenges. For example, utilities and automakers have very different business models: utilities operate regionally and have little to no direct competition within their markets, while automakers operate and compete globally. Further, automakers are primarily regulated at the national level, while utilities face more local and state regulations, which increases the difficulty of establishing a national strategy for vehicle-to-grid interaction. It will be important for automakers and utilities to understand and address these kinds of differences as they work together on vehicle electrification issues.

Ford has taken the lead in forging relationships with utilities and municipalities to address these challenges and facilitate the successful implementation of electric vehicles. In 2007, we initiated the Ford Plug-in Project, a collaborative effort involving the U.S. Department of Energy, the Electric Power Research Institute, the New York State Energy Research and Development Authority, and 10 utilities (Southern California Edison, American Electric Power, ConEdison of New York, DTE Energy, National Grid, New York Power Authority, Progress Energy, Southern Company-Alabama Power, Pepco Holdings and Hydro Quebec). Through this project we are road testing our Ford Escape plug-in hybrid prototypes that are equipped with vehicle-to-electric smart grid communications and control systems that will enable plug-in electric vehicles to interface with the electric grid, and will allow the vehicle operator to determine when and for how long to recharge the vehicle. This will potentially enable the user to take advantage of lower, off-peak utility rates.

We are also working with utilities, municipalities and states across the country to develop and facilitate the use of EV implementation best practices. Some of the key issues we are working on with local utilities and municipalities include the following:

- **Time-of-use electricity rates**: We are encouraging utilities to adopt a "time-of-use" rate structure, which would enable them to charge different rates at different times of the day based on overall electricity demand. Under a time-of-use structure, electricity rates would be lower at night when there is lower demand on the electrical grid. Since most EVs charge at night, this increases the benefits of electrified vehicles for consumers. It also helps utilities by giving customers an incentive to charge at times when electrical demand is already low, which helps to balance out utilities' electrical loads.
- **Maximizing the publicly accessible recharging infrastructure**: We are working with municipalities and utilities to develop more public recharging stations and to encourage a thoughtful and holistic approach to planning for publicly accessible recharging. In the next 18 months, we expect to see at least 12,000 publicly accessible charge stations installed in cities throughout the U.S., up from about 1,800 currently. This is an important step in fostering electrified vehicle use. However, the placement and design of publicly accessible charging stations requires careful consideration to maximize their usefulness to EV drivers. We are endorsing a holistic "urban planning" approach to charging station development in which local officials actively plan the locations for publicly accessible EV charging based on traffic patterns and the locations of other charging stations. This kind of approach will result in charging locations that are used more often and will make more-efficient use of investment dollars. We are also encouraging standard rules and signage for public refueling infrastructure that would tell drivers what type of charging is available, the hours when EVs can use charging stations, the length of time an EV can remain plugged in and how rules for charging stations are enforced.
- **Standards for private third-party charging stations and the resale of electricity**: In many cases, publicly available refueling stations will be installed and run by private businesses, such as gas stations and restaurants. In most states, when a third party resells their electricity, as they would to an EV driver, they are considered a regulated utility and face the same stringent regulations a utility must follow. We are working with states to encourage updating regulations so that reselling electricity for transportation would not be subject to utility-like regulations. This will encourage the development of more publicly accessible recharging stations.
- **Home EV charging station permitting process**: Homeowners are required to get a

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External Websites:

- U.S. Department of Energy
- Electric Power Research Institute
- New York State Energy Research Development Authority

permit from their municipality and/or utility to install a home EV charging station. Historically this process can take more than two weeks. We have been working with utilities and municipalities to encourage reducing the permitting process to a couple of days.

- Promoting EV incentives: Through our work with cities and utilities, we have identified a range of actions that will help consumers make the transition to electrified vehicles – for example, infrastructure incentives to offset a portion of customer costs for hardware/installation.
- Building codes for new construction: We are working with municipalities to develop codes for new building construction that would make them "EV ready," with best practices such as wiring for EV chargers.

We are working on these issues in a variety of ways. Much of this work is focused on the 19 markets we have identified as our initial targets for EV sales. In these markets, we are involved in direct partnerships with utilities and municipalities. We are also serving in a formal advisory role to utilities in several states. Ford is an active member of the Electric Drive Transportation Association, an industry group that is working to implement EVs in the U.S. And, we are testifying before state legislatures around the country to endorse legislation that will facilitate the successful implementation of EVs.

Our collaborations with utilities and municipalities are yielding key lessons that we are incorporating into our continued efforts to make electrified vehicles successful in the real world. Some of the key learnings we have gained so far include the following:

- Electric vehicles provide additional impetus to develop smart communication systems between the vehicle and the grid. This communication will allow the consumer to know if and when lower electricity rates are available (as some utilities will offer lower rates during the night when energy demand is low), and help prevent additional loads on the infrastructure. Providing utilities the ability to control when vehicles are charged, or assurances that vehicles will not be charged during peak demand time, could prevent costly infrastructure upgrades, some of which may be passed back to the customer by the utility (e.g., if a transformer needs to be upgraded).
- Smart vehicle charging will require that utilities and automakers develop a common standard for vehicle-to-grid and grid-to-home meter communications. Currently, utilities tend to operate regionally, but electric vehicles will increase the need for common national and even international standards. We have worked to develop a common charging standard in the U.S., and we are now focused on fostering the development of an internationally common charging standard.
- Widespread use of electric vehicles will likely require that vehicle power consumption be measured separately from home electricity use, requiring either additional meters or "smart" meters. In addition, the pooling of electrified vehicles in a particular region may require upgrades to the transformers and/or substations that form the electrical grid in that area.
- There are interesting possibilities for vehicle-to-grid and vehicle-to-home power flow. However, there are also significant challenges to making these possibilities a reality. For example, technical, safety, codes/standards compliance, legal, robustness and business case issues need further study prior to commercialization.
- Vehicle owners will likely want to be able to charge their vehicles at any geographic location and – in those cases where another payment method isn't used – have the cost applied to their home energy bill. In addition, vehicle identification and home meter association must be seamless for the customer. This kind of mobile or remote billing for vehicle charging services will require a paradigm shift in the utility industry's current billing processes and tools.
- Automakers and utilities both benefit from working together on outreach to local, state and federal regulators and legislators. Ford and our utility partners are already working with legislators and regulators on national standards for vehicle charging infrastructure and incentives and strategies to bring costs down.
- Utilities and automakers need to work together to educate consumers about the differences between electric vehicles and traditional vehicles so that consumers understand how to make the most of electric vehicles and charging infrastructure.

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Partnerships and Collaboration

Addressing the linked issues of climate change and energy security requires an integrated approach – a partnership of all stakeholders, including the automotive industry, the fuel industry, other industries and enterprises, governments and consumers. It will also require the best thinking from all of these sectors.

Ford is involved in numerous partnerships and alliances with universities, coalitions, nongovernmental organizations and other companies to improve our understanding of climate change. For example, Ford is:

- A charter member of the Sustainable Transportation Energy Pathways Program at the Institute of Transportation Studies at the University of California at Davis. The Institute aims to compare the societal and technical benefits of alternative sustainable fuel pathways.
- A member of the Massachusetts Institute of Technology's Joint Program on the Science and Policy of Global Climate Change.

Our participation in these and other partnerships helps us to formulate improved strategies for products and policies that will in turn help to address climate change and energy security. The following are links to the above-mentioned organizations and others with which we cooperate on climate change issues:

- 25x'25 (Energy Future Coalition)
- BP
- Center for Clean Air Policy's Climate Policy Initiative
- Clean Fuels Development Coalition
- Diesel Technology Forum
- Governors' Biofuels Coalition
- Harvard University, Belfer Center for Science and International Affairs
- MIT Joint Program on the Science and Policy of Global Change
- Growth Energy
- Princeton University's Carbon Mitigation Initiative
- U.S. Climate Action Partnership
- University of California at Davis, Institute of Transportation Studies Sustainable Transportation Energy Pathways Program
- Worldwide Business Council for Sustainable Development
- World Resources Institute
- World Economic Forum

Related Links

External Websites:

- MIT Joint Program on the Science and Policy of Global Change
- University of California at Davis, Institute of Transportation Studies Sustainable Transportation Energy Pathways Program

Water

2010 HIGHLIGHTS...

- Identified water as a top sustainability concern
- Refined our corporate water strategy
- Reduced water use per vehicle by 8.5 percent in 2010
- Assessing our water footprint throughout the vehicle lifecycle

Water availability, quality and access have rapidly become critical global issues extending well beyond environmental concerns. Water is essential to every element of human existence on our planet. It is vital for health, indispensable for agriculture and biodiversity, necessary for industry and critical for community development. The need for clean water cuts across all social, economic, environmental and political boundaries.

At Ford, water conservation is an integral part of our sustainability strategy, alongside greenhouse gas reduction. Many key vehicle manufacturing processes require the use of water, and water is used at every point in our supply chain. Our water-related risks come not only from being a direct water consumer, but from being a large purchaser of water-intensive materials, parts and components.

In preparation for this 2010 Sustainability Report, Ford conducted a new materiality analysis to determine the issues of highest priority for our Company and our stakeholders. For the first time, water emerged among the top concerns, and we now include it among the top material issues for our Company. Indeed, we recognize that our long-term success is dependent upon thriving communities and ecosystems, both of which require water.

Although we have been working on water-related issues for some time, at the end of 2010, we refined our Ford Motor Company water strategy, and our Board of Directors reviewed our water-related progress in early 2011. The water strategy is described in this section of the report along with details of our progress, targets and water-related impacts, among other topics.

To understand our water impacts, we have undertaken an assessment of our water footprint throughout the lifecycle of our vehicles.

Ford recognizes water as a human rights issue – a “right to water.” Companies that underperform on water issues will face scrutiny over human rights violations – especially those companies operating in water-stressed areas.

We see water as a local issue directly influenced by availability, quality and economics. We target facility water reductions based on local needs, while using a holistic, company-wide approach.

Perspectives on Sustainability

Monica Ellis

Chief Executive Officer, Global Environment & Technology Foundation and Chief Executive Officer, Global Water Challenge

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- Water Use

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Global Landscape

With water pollution increasing and the world's population growing, access to clean water is growing more uncertain. Approximately 1 billion people around the world lack access to safe, clean drinking water, and 2.5 billion lack sanitation facilities.[1] As global populations grow, demand for clean water soars, too.

Among some of the sobering statistics:

- Less than 3 percent of the Earth's water is freshwater. Of that, less than 0.5 percent is accessible to plants, animals and humans.[2]
- Water use has been increasing at more than double the rate of human population growth.[3]
- By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions.[3]
- At least 1.8 million children under age 5 die each year from water-related diseases.[4]

1. Source: UN Water, WHO/Unicef
2. Source: National Oceanic and Atmospheric Administration
3. Source: Food and Agriculture Organization (FAO) of the United Nations
4. United Nations Environment Programme

Progress at Ford

More than a decade ago, Ford made a commitment to decrease our water use, setting a target of 3 percent year-over-year reductions. Since we launched our Global Water Management Initiative in 2000, we have made outstanding progress. Our global manufacturing facilities have saved approximately 10.5 billion gallons of water over the past 10 years – a 62 percent reduction. Water use per vehicle decreased by 49 percent from 2000 to 2010.

We have taken a broad range of actions that have helped us minimize our water footprint. For example, we implemented a reverse-osmosis process to recycle water in a number of our production plants, allowing us to avoid using higher-quality water suitable for human consumption. We've employed an innovative parts-washing system to reduce wastewater and cut energy consumption. We have also looked to new technologies, such as one that lubricates cutting tools with a fine spray of oil, rather than the conventional wet machining that previously required pumping millions of gallons of metal-working fluids and water to cool and lubricate tools.

These actions don't attract many headlines – but they make an impact. And they reflect our commitment to reduce our environmental impacts.

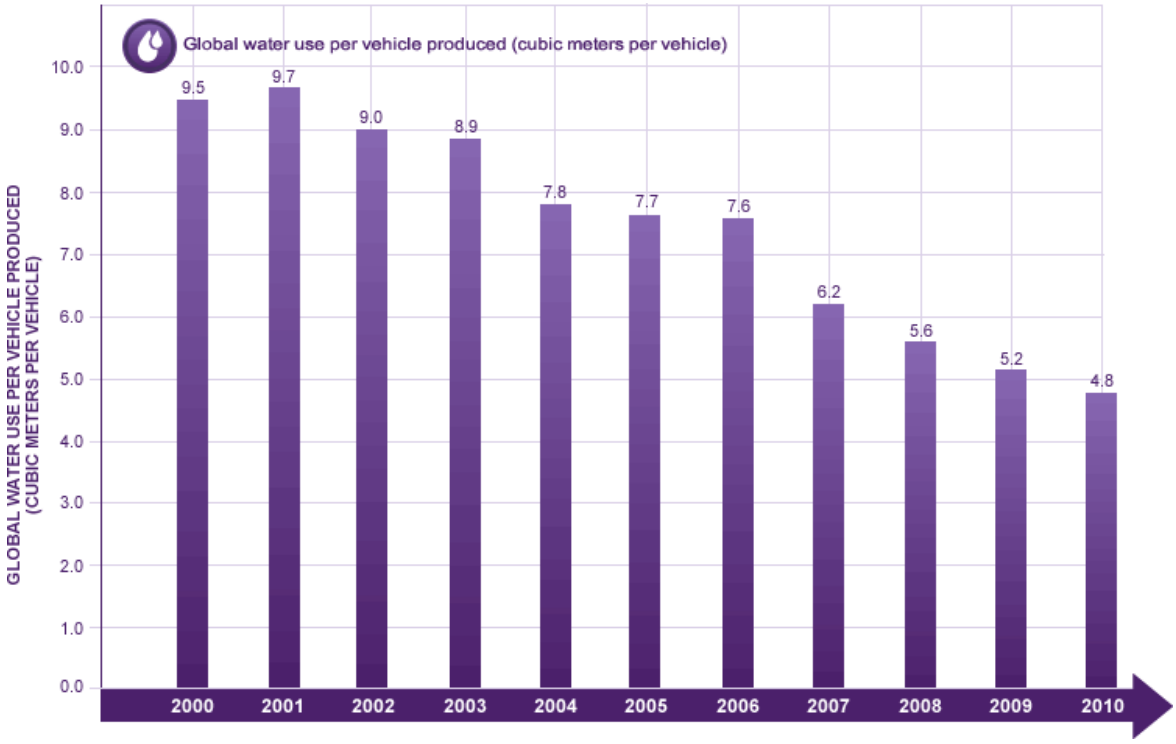
For 2011, we are aiming for a global water reduction of 5 percent per vehicle compared to 2010. Moving forward, we also will be setting internal year-over-year efficiency targets as part of the annual environmental quality business planning process within each of our global regions. And we will be requiring all of our plants to perform basic, low-cost water-reduction actions.

If we want to continue to reduce our water footprint, we must implement a more global approach that cascades best practices from our own plants – and from other industries. We have been benchmarking our peers and other manufacturers to look for water-saving techniques that can be adapted to Ford locations. We will also be looking at other management techniques, such as the introduction of critical monitoring and efficiency projects, the integration of new technologies and facility upgrades, and the alignment of resources.

For more on our water-reduction efforts to date, please see the Environment section of this report.

Related Links

This Report:
- Environment Data: Water Use



Impacts, Risks and Opportunities

Water scarcity can have a sizeable impact on our manufacturing operations. Although we do not use as much water as some other industries, we consume water in many key manufacturing phases in our plants. We cannot be certain that we will always have access to water.

Global climate change also has the potential to impact the availability and quality of water.

Water services are the most capital-intensive of all utilities provided, requiring more infrastructure for the delivery of water than the delivery of electricity, for example. According to the World Bank, a $400 billion to $600 billion investment will be needed in global water infrastructure in the next two decades. Meanwhile, the United Nations Educational Scientific and Cultural Organization (UNESCO) estimates that between $111 billion and $180 billion will be needed per year to meet Millennium Development Goals for sanitation by 2015.[1]

In the U.S., the Environmental Protection Agency estimates the country will need to invest $202.5 billion over the next 20 years in wastewater facilities, and an additional $122 billion will be needed to ensure safe drinking water supplies.

Given these anticipated expenditures, the cost of using water is expected to continue to increase in the coming decades. For a manufacturing company like ours, this would mean higher operating costs. Already, in some locations, rate increases from 2000 to 2009 outpaced water reductions, and our costs will continue to rise if we don't make further improvements.

Increasing water scarcity means industrial needs can be at odds with community and environmental needs for water to deploy. Industrial facilities in water-stressed areas will have reduced access to water and/or may endure rising water costs. Suppliers within water-stressed areas will also be affected.

Another possible risk for Ford is the water intensity of alternative fuels, such as biofuels and electricity, which require greater amounts of water. We are assessing the consequences for water quality and availability that may result from the increased production of electric and battery–electric vehicles, including the use of lithium.

Tracking and reporting our water usage helps us to manage water-related risks and, as a result, allows us to play a significant role in developing and implementing solutions to the water challenge going forward. We see opportunities for:

- Reduced manufacturing costs through process improvements and new technologies that better track our water usage and enable us to target resource use improvements
- Improved water efficiency, leading to reduced energy consumption (and emissions) as a byproduct of increased water efficiency

Water availability is a local issue with global implications. Working on solutions helps us to secure a "license to operate" in diverse global locations and can enhance our reputation in local communities.

1. In 2000, the United Nations set eight goals for development, called the Millennium Development Goals, to improve the global human condition by 2015.

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Water Strategy Approach

Ford's new water strategy looks at our water use from both an environmental and a social perspective.

Over the past year, we set up a cross-functional team from across Ford divisions – including our environmental quality, manufacturing, purchasing and community engagement functions – to review water issues in a more holistic way. This team has been meeting with a variety of groups – such as the Interfaith Center on Corporate Responsibility (ICCR), the U.N. Global Compact, the U.S. State Department, the Global Water Challenge and Circle of Blue – to gain a better appreciation of outside stakeholder perspectives.

Also in 2010, we became a founding responder to Water Disclosure, a Carbon Disclosure Project (CDP) initiative that launched in late 2009 to help institutional investors better understand the business risks and opportunities associated with water scarcity and related issues. The CDP's original project focused on corporate disclosures of greenhouse gas (GHG) emissions and climate change strategies, and we found our participation in that project to be very beneficial in helping us formulate our strategy for GHG reporting. We anticipate similar benefits from CDP Water Disclosure, which is providing a globally harmonized method for companies to report on water usage, water risks and water management.

We chose to become part of the project because we believe it can help companies move toward greater understanding of water as a strategic business issue, as well as offer encouragement to implement effective water management and conservation.

University Collaboration

Ford is collaborating with Georgia Institute of Technology in Atlanta to develop innovative processes that will better enable us to maintain our commitment to water reductions, particularly as we expand into water-scarce regions in India, China, South Africa and Mexico.

Georgia Tech's Sustainable Design and Manufacturing program is collaborating with us to develop our water footprint, researching the environmental issues surrounding the lifecycle of our vehicles, including the use of water in the manufacturing process. The university has worked with Ford on a number of multidisciplinary issues related to sustainable development.

Georgia Tech is also helping us conduct research on the water-intensity of biofuels and battery materials, such as lithium. Lastly, researchers there are helping us identify the best manufacturing technologies to improve our stationary water use.

Elements of our Water Strategy

Our water strategy actions aim to meet a number of objectives. These include:

- Minimizing global water consumption at Ford facilities while maximizing reuse
- Finding ways to use alternative, lower-quality water sources
- Prioritizing our investments based on local water scarcity and cost concerns
- Meeting either local quality standards or Ford global standards for wastewater discharge – whichever is more stringent
- Ensuring a stable water supply for our manufacturing facilities while working with local communities to minimize our impact

Looking Ahead

As we further embed our water strategy into our global operations, Ford will be exploring new ways we can measure, monitor and reduce our water use. We will be looking at new investments in technologies and targeted reuse opportunities. We will pursue unified industry solutions for water reductions within the supply chain to improve lifecycle water use. Our initial focus will be on water-intensive industry segments, including aluminium and steel.

We also will be signing the United Nations' CEO Water Mandate.

In addition, we will be working to safeguard the quality of the water we use in order to protect the health of our workforce and local communities. Our Ford Volunteer Corps, meanwhile, is placing a priority on water-based community projects during our Global Week of Caring and Accelerated

Action Days. In 2010, for example, Ford Shanghai office employees collected more than $10,000 to fund the installation of 52 freshwater tanks in western China communities. (See the Communities section for more on these programs).

Improving Water Access and Hygiene in Chennai, India

Beginning in mid-2011, Ford will be working with WaterAid America on a program to improve water access, sanitation facilities and hygiene education in three schools in Chennai, India.

The program, WaterAid in India (WAI), will partner with the Integrated Women's Development Institute, which has a proven track record of improving sanitation and hygiene issues in schools.

Each year, more than 385,000 Indian children die as a result of diarrhea and other diseases caused by unsafe water and poor sanitation. And although the country has one of the largest education systems in the world, the sanitary conditions in many schools are appalling. Only 44 percent have water supply, 19 percent have urinals, 8 percent have toilets and 19 percent of those with toilets have separate facilities for boys and girls.

WAI, which is receiving financial aid from Ford, will identify schools in the Chennai area that lack access to safe water and sanitation, and will build new sanitation facilities and help improve water quality.

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Case Study: Water Reductions at the Chihuahua Engine Plant

The Mexican state of Chihuahua has witnessed an industrial boom within the last several decades, with multinational firms setting up production facilities for auto manufacturing, aerospace and electronics, to name a few.

But the region, which shares a border with the United States, has suffered from droughts, with rainfalls that have been well below average, especially the last few years. The mighty Rio Grande River – the primary source of water for the region – can't keep pace with a growing population and a booming manufacturing base.

Ford opened our Chihuahua Engine Plant (CHEP) in Chihuahua City, the state's capital, in 1983. As water resources became increasingly stressed, we began to look for ways to reduce our water footprint and limit our impact on the surrounding community. We started making significant changes in our manufacturing processes about six years ago; today, we're proud to say that the plant does not use a single drop of potable water for anything except human use.

In Chihuahua City, most of the local residents are only able to receive water in their homes at certain times during the day. The industrial park where CHEP is located has its own wells and its own water supply lines; however, the underground wells pump water from the same underground reservoirs that supply fresh water to local residents.

"We were very conscious of the fact that water is not an abundant resource in the areas in Mexico where Ford has manufacturing operations," said Luis Lara, environmental quality manager for Ford Mexico. "We implemented an aggressive set of actions for water conservation, including a vision that we would use potable water for personal uses only, and that the rest of the water for the plant would be treated and re-used."

The facility has its own wastewater treatment plant, which has been updated and modified to recycle and reuse as much water as possible. About 80 percent of the treated water goes back into the industrial process; the rest is used for land irrigation around the plant.

Indeed, the plant, which has zero discharge to the municipal sewer system, won the 2010 Environmental Leadership for Competitiveness Award from the Mexican government for projects that are saving more than 32,000 cubic meters of water a year. At CHEP, these initiatives include:

- Using reverse-osmosis-treated gray water from the city's water system, instead of drinking-quality water, in the cooling towers of compressor machines and other manufacturing processes, such as washing machines and coolant systems. This system saves more than 3,500 cubic meters of water per year and more than 290,000 pesos per year, equivalent to about $25,000.
- Using more reverse-osmosis-treated water, rather than drinkable water, for washing equipment and floors in the facility. This saves an estimated 28 cubic meters of fresh water per year and approximately 475,000 pesos ($40,500) in reduced water, labor and cleaning costs.
- Implementing a new floor cleaning system that saves another 112 cubic meters annually.

Our Company's recently updated water strategy focuses on regions – such as Chihuahua, Mexico, and Chennai, India – where water is scarce.

"We recognize that water is an important issue everywhere, but we want to focus our efforts where the needs are greatest," said Andy Hobbs, director of Ford's Environmental Quality Office. "This enables both Ford and the communities in which it operates to achieve the most benefits."

Much of the technology used at CHEP is cutting edge. For example, CHEP uses an ultra-filtration membrane process followed by reverse osmosis. We are also implementing this advanced water recycling technology at our Hermosillo Stamping and Assembly Plant, located in the Sonora Desert in Mexico. We will continue to assess opportunities to use advanced water conservation technologies and reduce our overall water consumption across our operations, especially in water-stressed regions.

Chihuahua Engine Plant Facts

- Year opened: 1983
- Total employment: 1,300
- Products: 2.0L and 2.5L Duratec engine, 4.4L and 6.7L diesel engine
- Site size: 247 acres
- Plant size: 1,431,600 square feet

Sustainable Supply Chain Management

2010 HIGHLIGHTS...

With the AIAG, trained 463 suppliers in Turkey and Brazil on working conditions issues

The first automaker to issue a disclosure statement for the California Transparency in Supply Chains Act of 2010 (SB 657).

The only automaker to participate in the Carbon Disclosure Project's Supply Chain Program

Asked to join the UN Global Compact's Supply Chain Sustainability Advisory Committee

Ford's suppliers are critical allies in helping our Company to achieve success in the marketplace and meet our sustainability goals. We promote long-term relationships with our suppliers and seek alignment with them on sustainability-related issues such as greenhouse gas emissions management and human rights.

The basis of our work with suppliers is the Ford Code of Basic Working Conditions. This Code was formally adopted in 2003 and applies to our own operations as well as our $65 billion supply chain. It addresses workplace issues such as working hours, child labor and forced labor as well as non-discrimination, freedom of association, health and safety, the environment and other issues.

We work to ensure that Ford and our suppliers have management systems in place to mitigate potential risks, ensure continuity of supply and improve the overall sustainability of the complex global automotive supply chain. Our aim is to leverage our supply chain – and our industry – to make a positive impact in the markets in which we do business.

We take a three-pronged approach to engagement with suppliers on sustainability issues:

- **Building Capability at Individual Supplier Facilities:** We work with suppliers to encourage the management of sustainability issues. We conduct supplier training supported by assessments and remediation at individual factories.
- **Engagement with Strategic Suppliers:** Ford and our strategic production suppliers work together at the corporate level to align and enhance approaches to a range of sustainability issues.
- **Collaborating with Peers in the Automotive Industry:** To achieve truly lasting change, we are leading work with our counterparts in the automotive industry, often through the Automotive Industry Action Group (AIAG), to develop common approaches to a full range of sustainability issues.

Accomplishments

In 2010, our human rights and environmental responsibility accomplishments in the supply chain included the following:

- Independently, Ford trained suppliers in Romania on systemic solutions to working conditions challenges and assessed 136 supplier factories around the world for compliance with Ford and legal requirements. Ford global totals now exceed 1,655 suppliers trained and 751 suppliers assessed.
- Together with other automakers through the AIAG, we trained 463 supplier companies in Turkey and Brazil. The industry total across five countries now exceeds 1,260 suppliers trained.
- We continued to work with our strategic suppliers to ensure that they have robust Codes of Conduct and supporting management systems and engage with their suppliers. This work also supports responsible purchasing practices in the raw material supply chain.

Perspectives on Sustainability

Tony (Thomas K.) Brown

Group Vice President, Global Purchasing, Ford Motor Company

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This Report:

- Code of Basic Working Conditions
- Sustainable Raw Materials
- Supplier Relationships
- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Supply Chain Environmental Sustainability
- Case Study: Forced Labor in the Pig Iron Supply Chain in Brazil

- We surveyed 35 suppliers regarding greenhouse gas emissions and achieved a 75 percent response rate. Eighty percent of respondents said they track their emissions, and 50 percent said they externally report their emissions.
- Through the AIAG, we helped to establish common industry guidance and a reporting format for greenhouse gas emissions, to be used by global automakers and Tier 1 suppliers.
- We expanded the scope of the AIAG's industry supplier training to include business ethics and environmental responsibility and helped to secure additional sponsorship by European-based automakers.
- We were asked to join the United Nations Global Compact's Supply Chain Sustainability Advisory Committee and contributed to the landmark publication of the ***Supply Chain Sustainability: A Practical Guide for Continuous Improvement*** and its associated website.

In 2010, Ford initiated a holistic risk assessment of direct and indirect raw material supply chains. Ford feels strongly that cooperation within industry, as well as with multiple stakeholders, will be required to effectively address the human rights and environmental impacts of mining and other raw material production processes.

This section provides background on our relationships with our suppliers and details our supply chain work to support human rights, promote environmental sustainability and explore human rights and environmental issues related to raw materials. The complexity of issues surrounding raw material supply chains are discussed in a case study of Forced Labor in Brazilian charcoal production. We also detail our efforts to promote diversity among our suppliers.

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Supplier Relationships

The automotive supply chain is one of the most complicated of any industry. Automakers like us rely on thousands of suppliers to provide the materials, parts and services to make our final products. Our own direct (Tier 1) supply chain, for example, involves a million people and more than 100,000 parts made at more than 4,000 manufacturing sites (See Supply Chain Profile.). Many suppliers serve numerous automakers. And each of those suppliers, in turn, have multiple suppliers. There are often six to 10 levels of suppliers between an automaker and the source of raw materials that eventually enter the manufacturing process. The breadth, depth and interconnectedness of the automotive supply chain make it challenging to effectively manage business and sustainability issues.

Ford and its suppliers must work jointly to deliver great products, have a strong business and make a better future. In today's economic environment, achieving lower costs, improving quality and meeting sustainability goals require an unprecedented level of cooperation with suppliers and the maintenance of strong supplier relationships.

Beginning in 2005, we introduced an Aligned Business Framework (ABF) with our strategic suppliers to accomplish these goals. In 2010, we expanded the ABF, designating additional companies to join this select group of key component and service suppliers chosen for closer collaboration on a global basis where possible. With the new suppliers named in 2010 and early 2011, the ABF network now includes 102 companies, including 75 production and 27 nonproduction suppliers from around the world. Minority- and women-owned suppliers make up more than 10 percent of the ABF network.

We are committed to maintaining strong relationships with our ABF and other suppliers by:

- Adhering to Ford Supplier Relationship Values
- Deploying a single global product-creation process that combines aggressive execution of product plans with minimal variances
- Enhancing process stability, commonality and reusability
- Improving communication by providing real-time performance data to the supply base
- Providing suppliers with greater access to senior Ford managers in small-group settings
- Establishing organizational stability models in Manufacturing, Product Development and Purchasing
- Improving order fulfillment
- Engaging the supply base in discussions about process stability, incoming quality and corporate responsibility, and involving suppliers in coalitions to create awareness of industry issues

It is important that our suppliers share our commitment to environmental and social responsibility. This improves the flow and quality of information critical to continuity of supply and compliance to regulation. It also helps to ensure efficiency and quality throughout the supply chain. Shared commitment helps us avoid risks to our operations and reputation that can arise due to substandard practices in our supply chain (see, for example, the Brazilian charcoal case study). We have developed a set of programs and partnerships to help align our suppliers' practices with our own.

Corporate Responsibility Recognition of Achievement Award

For several years, Ford has recognized supplier companies that demonstrate leadership in environmental and social performance with a corporate responsibility award. Suppliers must meet several criteria, including ISO 14001 certification at all manufacturing sites, an operational Code of Conduct aligned with international standards, an exemplary material management reporting record and demonstration of overall sustainability leadership by incorporating environmental and social considerations into their business.

In June 2010, Ford selected three winners for the 2009 Corporate Responsibility Recognition of Achievement Award: BASF, Johnson Controls and Visteon. The Recognition of Achievement Award is given to suppliers that improve customer satisfaction by leading key initiatives in several areas, including: Corporate Responsibility; New Consumer-Focused Technology; Warranty Improvement; Diversity and Community Service; and Consumer Driven Six Sigma.

Related Links

This Report:

- Supply Chain Profile
- Case Study: Forced Labor in the Pig Iron Supply Chain in Brazil

External Websites:

- BASF
- Johnson Controls
- Visteon

Supply Chain Profile

Production

(Products that become part of the vehicle)

60+

countries in which suppliers are located

36

emerging markets in which suppliers are located

17

emerging markets considered to have risks of substandard working conditions. These countries were identified as higher risk based on consultation with nongovernmental organizations, other companies with human rights experience, local Ford operations and various media and government reports.

90

Ford manufacturing sites

1,400+

supplier companies (Tier 1)

4,400+

supplier manufacturing sites

130,000

parts currently being manufactured

250+

production commodities to manage

Nonproduction

(Products and services that do not become part of the vehicle, such as construction, computers, industrial materials, health care, machinery, trains, advertising)

9,000+

supplier companies

600+

nonproduction commodities

TOTAL GLOBAL BUY

$65+ billion

Creating a Sustainable Supply Chain: A Developmental Approach

Within our global supply base, we have long-term, strategic relationships with a select number of suppliers. Relationships with these suppliers are structured through the Aligned Business Framework, which is designed to create a sustainable business model to increase mutual profitability, improve quality and drive innovation.

The bilateral ABF agreements comprehensively and formally spell out 20 key business commitments to which Ford and the ABF suppliers must adhere. One element of the ABF agreement is the commitment by suppliers to manage and assure proper working conditions, including responsible environmental management, in their facilities and in their supply chain. (ABF suppliers must also adhere to our Global Terms and Conditions.) This commitment is important for several reasons. Beyond the simple fact that it is the right thing to do, there are specific business benefits to Ford and suppliers in reducing the risk of operational or reputational issues that could affect production. The commitment also provides an opportunity for joint action by Ford and its suppliers to ensure responsible behavior throughout the automotive supply chain.

Ford is facilitating this ABF commitment through a three-phase developmental process, in which ABF suppliers are asked to:

1. Develop or verify that they have a code of conduct aligned with Ford's Code of Basic Working Conditions and internationally accepted principles
2. Conduct internal training and develop compliance processes supporting their code
3. Extend these expectations to their sub-tier suppliers

Ford has committed to providing suppliers with a range of support and assistance based on our experience in this area. We have developed in-depth resource guides and coordinated presentations by subject matter experts to give suppliers information and background on human rights and greenhouse gas emissions estimation. We have provided tools such as worksheets for emissions tracking and reporting and code of conduct development. We are sharing the training materials we have developed, as well as information and guidance on our compliance and training processes. Finally, we have committed to working with suppliers to help resolve issues and concerns.

The Ford Supply Chain Sustainability staff have implemented a robust process of review at each of the three phases or milestones, thus ensuring that suppliers meet our expectations. We are making good progress in this developmental work with our ABF suppliers. Twenty percent of our strategic suppliers have met all three Ford milestones – that is, they have codes of conduct in place that are aligned with international standards and supported by robust management systems governing their own operations and their supply chain. The intent is for our ABF suppliers to wholly own responsibility for sustainability in their supply chain. As of 2011, ABF suppliers still participate in the factory-level Working Conditions Program if requested by Ford, but over time, we expect the need for their participation to decline.

Through our work with ABF suppliers to date, we have found key success factors that have enabled companies to make notable progress, including: (1) the identification of executive decision makers to coordinate cross-functional efforts; (2) the support of executive management and/or the Board of Directors; and (3) facilitation by Ford of discussions and implementation support through individual or regional in-person meetings. In general, companies that have been able to make progress in aligning with these ABF expectations have been those that have not been in significant financial distress and may already have aligned values, but had not necessarily institutionalized those values through policies and programs. Many of these companies approach responsible working conditions and environmental management in a systemic manner with implementation and supporting management systems in mind. The extension of working conditions and environmental expectations to the ABF companies' own supply base has proven to be the biggest challenge, given resource constraints and general lack of expertise and knowledge of the issues. The creation of tools and guidance by workgroups at the AIAG and the United Nations Global Compact have been useful to our ABF suppliers in their development of sustainable supply chain systems.

During the fourth quarter of 2010, we held our annual ABF sustainability meeting in Dearborn, Michigan. It was attended by senior management from Ford and our ABF suppliers. The meeting included a workshop on sustainable supply chains and updates on sustainability management initiatives (including supply chain working conditions, conflict minerals and greenhouse gas management) that are in progress by Ford and at the industry level.

Through the ABF, Ford is making strides in improving its working relationships with suppliers on a global basis. We are particularly excited about our sustainability work with our ABF suppliers, as it leverages our efforts to manage human rights and environmental responsibility issues in our supply chain in a more collaborative, in-depth, integrated and aligned manner. In our view, it will

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This Report:

- Code of Basic Working Conditions

help embed ownership for social and environmental issues throughout our value chain, and lead to the development of more robust sustainable management systems across the automotive supply chain.

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Human Rights in the Supply Chain: Ford's Global Working Conditions Program

We aim to ensure that everything we make – or others make for us – is produced consistent with local law and our Code of Basic Working Conditions (CBWC). This can be challenging, as we have less control in suppliers' facilities than in our own, particularly at the sub-tier level (i.e., our suppliers' suppliers). As Ford control decreases through the tiers of suppliers, the risk for substandard working conditions increases. For this reason, we have had to define our approach carefully, involving suppliers, other automakers, governments, NGOs and other stakeholders.

The legal structures governing working conditions, and the level of enforcement, vary widely across the countries in which we operate. Ensuring sound working conditions in the supply chain is ultimately the suppliers' responsibility, and we would like governments to play the lead role in enforcing compliance with laws. However, as customers, we also have an active role to play in supplier development.

Since we began work with our suppliers to ensure alignment with our CBWC, our approach has emphasized building capability throughout the supply chain to manage working conditions effectively. Our primary focus has been on training and education about working conditions issues, in conjunction with assessments of individual suppliers in order to verify performance and progress. We are committed to collaborative action to more effectively influence all levels of the automotive supply chain.

Our long-term vision is for our industry as a whole to work together to ensure that high expectations around human rights and working conditions are met throughout the supply chain. We promoted cross-industry collaboration beginning in North America and have extended these efforts to include global manufacturers. Our view is that all participants in the automotive supply chain – from the original equipment manufacturers (OEMs) such as Ford, to the suppliers themselves, to the government agencies that set and enforce the regulations governing operations – must be involved to make these efforts sustainable in the long run. Such collective action will not only minimize costs and increase efficiency for OEMs and suppliers alike, but will lead to better results than if individual companies take steps in isolation. More information about the corporate responsibility accomplishments and ongoing work of the industry through the AIAG can be found at www.aiag.org.

We are working toward our vision using a three-pronged approach aimed at individual supplier facilities, supplier corporate management and OEM corporate management. (See the Expanding Human Rights Impact on Supply Chain graphic.)

Perspectives on Sustainability

Sister Patricia Daly

Executive Director, Tri-State Coalition for Responsible Investment

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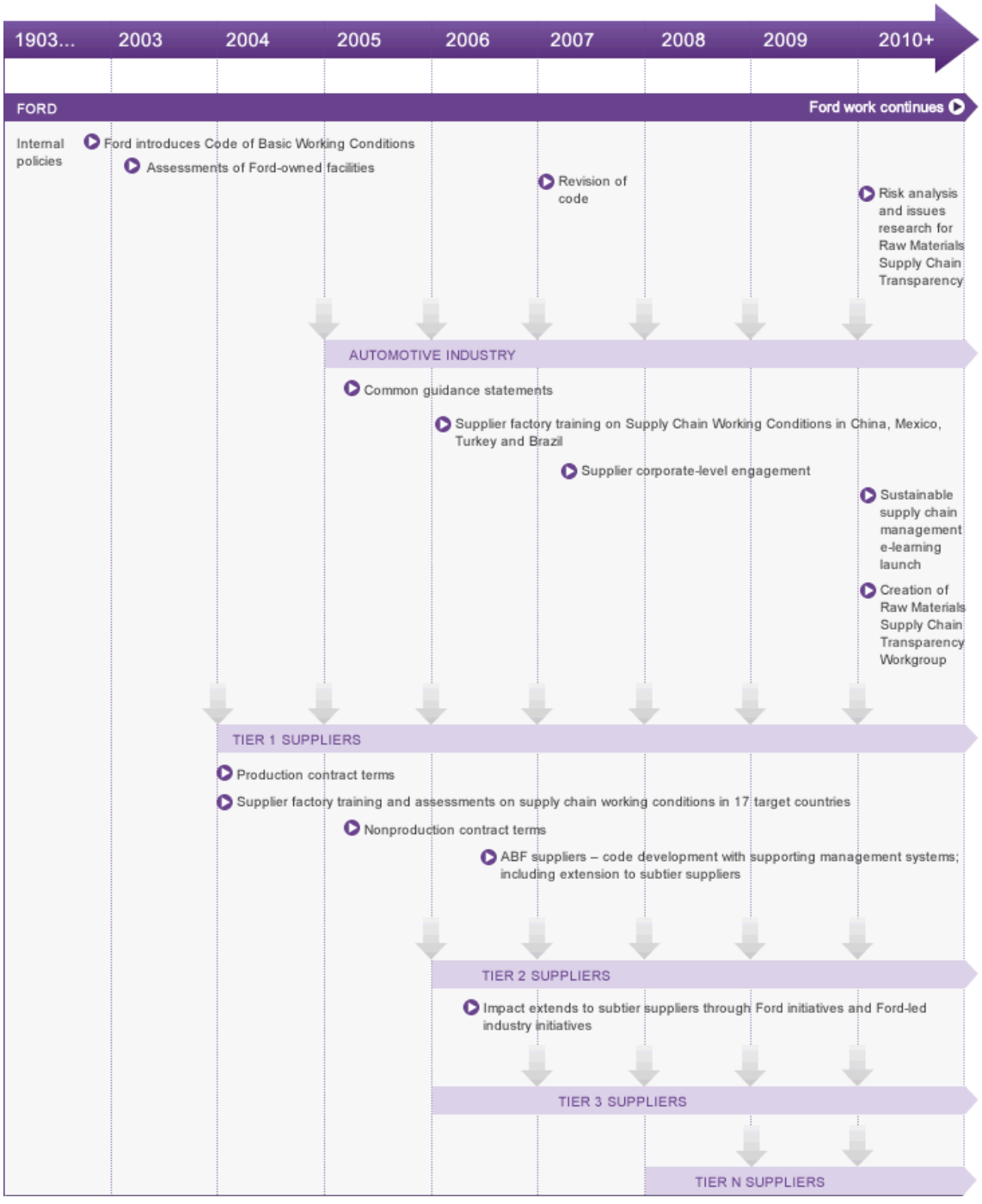

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Setting Expectations for Our Suppliers

Every supplier doing business with Ford is subject to Ford's Global Terms and Conditions. This core contract reflects our prohibition of the use of forced labor, child labor and physical disciplinary abuse. These requirements were added in January 2004 for production suppliers and in September 2005 for all others. We have provided a standard for these areas – the same as we use in our own facilities (Ford's Code of Basic Working Conditions, or CBWC) – that supersedes local law if our standard is more stringent. The Global Terms and Conditions also prohibit any practice in violation of local laws.

In addition, the Global Terms and Conditions serve to:

- Set the expectation that suppliers will work toward alignment with our CBWC in their own operations and their respective supply chains in the areas of harassment and discrimination, health and safety, wages and benefits, freedom of association, working hours, bribery and corruption, community engagement, and environment and sustainability.
- Make clear Ford's right to perform third-party site assessments to evaluate supplier performance.
- Communicate that Ford can terminate the relationship for noncompliance or for failure to address noncompliance in a timely manner.

Our Terms and Conditions are accompanied by Supplier Guides to assist suppliers in the application of expectations. The supplier guide that covers human rights and working conditions amplifies the expectations set out in the Terms and Conditions, providing context on Ford's aspirations for the automotive supply chain. Among other resources, it provides specific guidance, recommendations for self-assessments, and directs suppliers to the factory-level training.

Related Links

This Report:

- Code of Basic Working Conditions

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Engagement with Individual Supplier Facilities: Building Supplier Capability

The primary focus of our work on human rights in our supply chain is building capability among our suppliers to responsibly manage working conditions. This includes meeting legal requirements and Ford's expectations, promoting sound working conditions in our suppliers' own facilities and supply chains and encouraging a coordinated, industry-wide approach.

We began this work by developing a training curriculum and approach that we used with Ford suppliers in 17 countries. We recognized from the outset that a joint effort with other automakers would reach a greater number of suppliers more efficiently – as many of those suppliers are shared across multiple automakers – and would ultimately be more successful in embedding a sound approach to working conditions throughout the automotive supply chain. So we initiated a workgroup within the Automotive Industry Action Group (AIAG), a North American member-based, nonprofit industry group specializing in supply chain issues, and we recruited other automakers in North America, Asia and Europe to participate. We now co-sponsor supplier factory-level trainings whenever possible and supplement those with Ford-specific workshops as needed.

At Ford, we continue to focus on the 17 countries we had previously identified as having higher risks of substandard working conditions. Among those countries, locations are prioritized based on production and sourcing trends, sales trends and relative perceived risk based on the input of human rights groups, other companies' experience and other geopolitical analysis. We periodically review the list of countries. We did not find it necessary to add countries in the most recent review.

The companies at the AIAG discuss and agree on priority locations for the training workshops. Beginning in 2007, the sponsoring OEMs launched joint factory-level training workshops in China and Mexico. All training materials and the overall approach were based on Ford's prior work. The launch of each series of in-country training involves participation by OEM representatives and Tier 1 suppliers as well as local industry associations and government support where possible.

Whether delivered by Ford alone or with other automakers at the AIAG, the training workshops emphasize the interpretation and application of legal standards and international best practices. By interacting with managers from the human resources, health and safety, and legal departments of participating companies, the workshops provide for a two-way learning experience touching on the areas of interest for each company. The sessions utilize a "train-the-trainer" approach, so as to expand the scope and impact of the training.

While the supplier training sessions are customized to align with the unique laws, customs, cultures and needs of each location, in general they consist of:

- A day-long interactive workshop facilitated by qualified trainers and involving multiple automotive suppliers, in which participants develop and confirm an understanding of customer expectations, local law, best practices and sustainability management systems.
- Verification that the course attendee delivered training on the information obtained during the classroom training to all supplier personnel at each factory and communicated customer expectations to their direct sub-tier suppliers. Ford collects this verification within four months of course completion.

During 2010, Ford independently trained 19 suppliers in Romania. This brings the global total for trained Ford suppliers to 1,655. In addition, with other OEMs at the AIAG, we trained a total of 463 supplier companies in Turkey and Brazil in 2010. The industry total across five countries now exceeds 1,260 suppliers trained. Suppliers trained in 2010 have now moved on to the process of self-assessing their facilities for compliance with local law and Ford expectations, and completing the final stage of the program, which is communication to both workers and their own suppliers on the topic of working conditions expectations.

In 2011, we plan to conduct additional supplier training workshops in conjunction with the AIAG in China, Mexico, Brazil, India, Thailand and Turkey. Training content for these workshops has been expanded to include business ethics and environmental responsibility. Additionally, where possible, these courses will be open to any interested company, and thus Tier 1 suppliers will have the option of asking their own suppliers to attend. The intent is, once again, to increase the scope of impact of the training and push working conditions expectations further down the supply chain.

Working Conditions Program

Related Links

This Report:

- Society Data: Working Conditions Assessment Status for Supply Chain

External Websites:

- AIAG

Countries

- **Americas and Caribbean**: Argentina, Brazil, Colombia, Mexico, Venezuela and Central America (Assessments only)
- **Asia and Africa**: China, India, Korea, Malaysia, the Philippines, South Africa, Taiwan, Thailand, Vietnam
- **Europe**: Romania, Russia, Turkey

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Assessing Suppliers

Since 2003, we have conducted more than 750 assessments of existing and prospective Tier 1 suppliers in 20 countries. The assessments provide feedback to Ford and suppliers about how well they are meeting legal requirements and Ford's expectations. They also provide insight into the effectiveness of our training programs. Assessments consist of a detailed questionnaire, a document review, factory visits, and management and employee interviews, and are conducted with the assistance of external auditors.

In 2010, we conducted assessments across the target countries. The findings from the 2010 assessments were generally consistent with those we had previously conducted. Namely, they identified a wide range of general health and safety issues, several wages and benefits issues and a limited number of other types of noncompliance.

The findings from Ford's 2010 supplier assessments included:

- No evidence of forced labor or physical disciplinary abuse
- A range of general health and safety issues, including inadequate emergency systems
- In some cases, a lack of appropriate timekeeping systems, and thus a failure to pay correct overtime wages
- In some cases, a failure to pay the correct local minimum wage or overtime or to provide the correct social insurance
- A general need to clearly define policy on harassment and discrimination
- Limited cases of restricted workers doing hazardous work
- In some cases, limited or restricted access to appropriate documentation regarding subcontracted labor and privacy policies
- In some cases, nonpayment of company contributions to government-mandated social programs
- Working hours violations related to overtime (in some cases, this overtime is a chronic issue resulting from poor capacity planning, but more often, it occurs only during peak production periods)
- Freedom of association has been difficult to verify. While all assessed suppliers have either union representatives or a grievance process, there may be issues we have not been able to identify through our assessment process

Another common finding is that suppliers often lack fully developed management systems – including continual improvement processes – to support compliance over time. This finding has validated our training approach, which continues to emphasize management systems at both the corporate and factory levels. We continue to engage with our suppliers to develop and implement appropriate corrective action plans.

The assessment that Ford uses with Tier 1 suppliers has been an important tool for furthering our understanding of both the issues and the root causes for noncompliances. If issues are identified or allegations made of a sub-tier supplier, Ford does make available our assessment tool and guidance to our responsible Tier 1 supplier. In this way, we hope to affect positive change more broadly and enable our suppliers to effectively manage their supply base.

In 2011, we will continue to conduct supplier assessments across the target countries as necessary. We are also exploring the potential for conducting assessments jointly with other automakers in the future.

Related Links

This Report:

- Society Data: Working Conditions Assessment Status for Supply Chain

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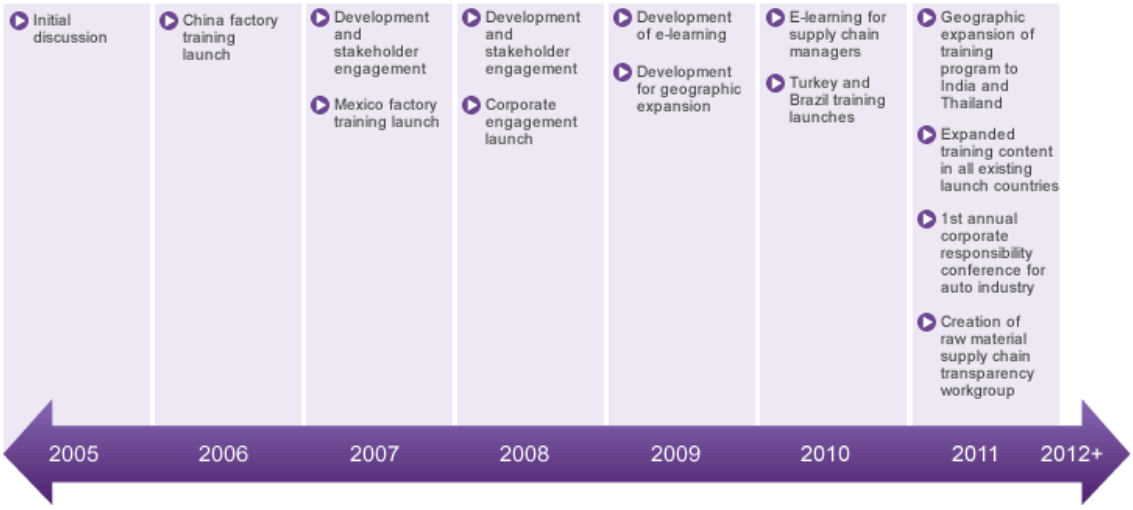
Collaboration Within the Automotive Industry

Since 2004, Ford has worked with the AIAG to implement its capability-building program with global suppliers, with the intent of leveraging that work with other automakers (see diagram below). Ford has taken an "open book" approach to its supply chain work and has contributed an "executive on loan" – the global manager of our Supply Chain Sustainability group – to the AIAG to support the industry's work and share what we have learned from working on these issues within our own operations. Materials developed within Ford to promote responsible working conditions have been offered to the group as a platform for use and development.

Related Links

External Websites:
- AIAG



In 2005, Ford, General Motors, Chrysler, Honda North America and Toyota North America began collaborative work through the AIAG to explore a cooperative industry approach to promoting decent working conditions in the supply chain. We continue to seek the participation of all global OEMs. Nissan and Daimler have since joined the AIAG and have begun participation in a number of established and emergent workgroups. Additionally, Renault has participated in the 2010 Turkey Global Working Conditions supplier training. We have engaged suppliers across a variety of different commodities. Their participation has been important to inform the activities pursued by the automakers at the AIAG, as has engagement with government (both U.S. and local governments in the countries in which training programs are provided) and nongovernmental agencies.

Initiative participants have created a set of guidance statements to establish a shared industry voice on key working conditions issues. The statements cover the core elements of individual companies' codes and policies, joint codes created by other industries and key international standards. The guidance statements cover child labor, forced labor, freedom of association, harassment and discrimination, health and safety, wages and benefits, and working hours. These statements serve as a baseline agreed upon by all the participating OEMs and are used as a platform for training. In 2010, we reached agreement with the other automakers to also expand the training curriculum to cover business ethics and environmental responsibility.

It should be noted that Ford's specific expectations in the Ford CBWC for child labor exceed the expectations in the industry guidance statements and also include elements not yet addressed by the industry guidance statements, such as community engagement and indigenous populations.

Tier 1 Engagement for Supply Chain Sustainability

Two new countries saw the launch of the AIAG jointly sponsored supplier training in 2010 – Turkey and Brazil. Both launches were executed successfully with the attendance of 463 total suppliers. The training in Turkey involved – for the first time – participation by a couple of European-based OEMs. Consistent with the format of Ford's original design, the attendees were required to subsequently complete a cascade of the training and expectations to the entire factory population and suppliers. Through this process, the trainings impacted more than 83,300 workers and 29,600 Tier 2 suppliers.

The automakers collaborating at the AIAG have developed an online training program on supply chain working conditions and responsible procurement targeted at purchasing or supply chain management. The web-based training was launched in early 2010 by the five participating OEMs free of charge to their respective suppliers. The training was also deployed internally at a number

of the sponsoring OEMs for their own global purchasing and supply chain staffs. Evaluation of the course and its impact is underway.

Next Steps in Industry Cooperation

The work of the companies at the AIAG continues on several fronts:

- Exploring an industry response to raw materials sourcing and transparency challenges
- Continuing to expand the factory-level supplier training program
- Increasing supplier ownership of working conditions issues through an expansion of engagement opportunities (i.e., the launch of e-learning programs in 2010 and continued direct engagement in AIAG work groups)
- Development of additional resources and networks that will ensure the successful communication of working conditions expectations throughout the automotive supply chain

For all workstreams, the AIAG and the companies are actively reaching out to others in the automotive supply chain, including global automakers and heavy truck manufacturers, industry associations and major automotive suppliers, as well as cross-sectoral initiatives. Broader participation will be needed to achieve the vision of an industry-wide approach to promoting supply chain sustainability.

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Continued Evolution

As the work at the AIAG develops and matures, Ford will maintain a leadership position in our work with the supply chain. We will continue to conduct our own training and assessment programs in countries not covered by AIAG programs. We will also seek further opportunities to strategically leverage our assessment data and training processes to enhance our overall approach to working conditions and environmental responsibility in the automotive supply chain.

In addition, we constantly monitor approaches developed by other organizations and industries in order to incorporate what they have learned into our approach. We will continue to pursue partnerships with direct suppliers that create ownership of working conditions within those supplier organizations. Clear, consistent communication and further business integration of processes that support responsible working conditions throughout the supply chain will be a key component of our continued work.

Related Links

External Websites:

- AIAG

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Sustainable Raw Materials

As automobiles incorporate more advanced technologies, the material content of vehicles becomes more varied. Ford has a long history of seeking to use sustainable materials in our products and source from suppliers that demonstrate sustainable business practices, including respect for human rights and the environment. Although the majority of what we buy are parts and assemblies directly used in vehicles, there is a need to take a closer look at the farthest reaches of the supply chain, including raw material extraction.

The extraction of raw materials can have significant social and economic impacts – both positive and negative. Extractive processes for raw materials can create employment and economic growth, but also have the potential to disrupt or displace communities and endanger public health. Raw material extraction may result in environmental impacts, such as water scarcity, air and water pollution and waste generation that must be minimized and mitigated. If the extraction is managed by unscrupulous operators, workers risk exploitation, and the economic, social and environmental risks are multiplied. In addition, the concentration of strategic materials in a limited number of locations can present significant geopolitical risks to companies all along the supply chain.

Most raw materials are not supplied directly to Ford; rather, they are provided to our suppliers or our suppliers' suppliers. On average, raw materials pass through six to 10 suppliers before reaching Ford. (See, for example, the known supply chain stages associated with conflict minerals.) This makes tracing the source of raw materials very challenging. We have analyzed several select raw materials from a strategic perspective to identify sustainability risks and opportunities related to extraction, use and end-of-life treatment. Our approach to promoting sustainable raw material supply chains includes the following:

- **Advancing transparency in our supply chain** by working to better understand the relative material content of our products. We will strive to know – where possible – the original source of the raw materials that reach us through our supply chain and to know and influence our direct suppliers' policies and practices.
- **Engaging with policy makers and global stakeholders.** Upon invitation from the U.S. State Department, the International Labor Organization, the United Nations Global Compact, the Organization for Economic Cooperation and Development and the Interfaith Center for Corporate Responsibility, Ford has participated in forums on eradicating forced labor, child labor, trafficking and other issues that can result from abuses in the extractive sector.
- **Collaborating with others in our industry** and related industries through the Automotive Industry Action Group (AIAG) and other forums, to promote effective industry-wide approaches.
- **Promoting recycling** by maximizing the economic viability of recycling, where feasible.
- **Seeking flexibility of supply** through the proactive identification of potential supply and material alternatives and their impact. In those instances where the continued use of a material or supplier is impossible or misaligned with Ford's stated values, we will explore the potential of a viable alternate source or material. In such cases, due regard will be given to the potential side effects to local communities in the extraction area.

In the last six years, public awareness of the potential and realized risks regarding raw material extraction has increased, due to NGO campaigns, media coverage and greater access to information. In addition, there have been growing calls for transparency in raw material supply chains, in order to help governments and NGOs monitor and address issues in raw material extraction. Certain raw materials are particularly relevant for Ford, and in this section we address two areas in more detail.

First, the extraction and transport of certain minerals known as "conflict minerals" originating from the Democratic Republic of Congo and neighboring countries are believed to fuel conflict in the region. Ford is working with multiple stakeholders, including the automotive industry, to address the supply chain concerns.

Second, a range of other products and materials sourced from specific geographies have been identified and described by the U.S. Department of Labor as posing potential human rights concerns. Included on this list is charcoal from Brazil – a finding consistent with NGO and media concerns that were brought to Ford's attention in 2006. Charcoal can be used to make pig iron, a key ingredient in steel production. Given the persistence of risks associated with this material, Ford is working toward a multilateral solution with key players. Please see Forced Labor in the Pig Iron Supply Chain in Brazil for more information on our approach to this issue.

Related Links

External Websites:

- AIAG
- U.S. State Department
- International Labor Organization
- United Nations Global Compact
- Organization for Economic Cooperation and Development
- Interfaith Center for Corporate Responsibility

Conflict Minerals

"Conflict minerals" generally refer to those minerals that may have directly or indirectly contributed to the financing of armed groups. Such armed groups are responsible for violence – often toward women and children – and human rights violations in the Democratic Republic of Congo (DRC). Armed groups may directly manage a given mine or tax the mine and/or the transport routes for the minerals. The minerals then typically change hands eight to 12 times before they are incorporated into end products. See the known supply chain stages associated with conflict minerals.

In the U.S., a new federal law passed by Congress and signed by President Obama in 2010 – the Dodd-Frank Wall Street Reform and Consumer Protection Act – includes a provision relating to conflict minerals. This provision requires many manufacturers to report to the Securities and Exchange Commission (SEC) annually on whether their products contain metals derived from certain conflict minerals if those metals are necessary for the functionality and production of their products. The sourcing region subject to full reporting includes the DRC and the nine surrounding countries.

According to the federal legislation, columbite-tantalite, cassiterite, wolframite and gold – which are refined into tantalum, tin, tungsten and gold, respectively – are considered to be conflict minerals. The metals derived from conflict minerals are used in a variety of automotive applications, including onboard electronics, metal alloys, lubricity coatings, hot-dip coatings, trim components and more.

In the European Union, similar legislation is being considered, with an EU Commission communication on conflict minerals scheduled for the summer of 2011 and reform of the EU's Transparency Directive in the autumn of 2011.

Ford is concerned with the potential connection between the automotive industry and conflict in the DRC region. Initial research and engagement has demonstrated that the underlying causes of conflict in this region are complex. A multilateral approach to solutions will be required, and we believe that companies in the downstream supply chain for these minerals have a role to play. We intend to require suppliers to use only metals that have been procured through a validated supply chain, so as to ensure that they have not, at any point, financed conflict. The processes to support validation are in development by local governments, industry groups, international organizations and NGOs, with support from other governments outside of Central Africa. While these processes are being developed and implemented, Ford is taking action to educate ourselves and our suppliers, initiate automotive industry activity and begin the necessary due diligence.

Policy Engagement

Ford worked with companies such as Microsoft, GE and Hewlett Packard, as well as NGOs and investors such as the Interfaith Center on Corporate Responsibility, to issue multi-stakeholder comments on the SEC rules as they were being developed and finalized. Representatives from Ford also separately met with the SEC and the U.S. State Department to discuss issues relating to procedures and implementation within the automotive supply chain. In March 2011, we submitted a formal comment letter to the SEC stating our position. The intent of this engagement was to inform, to the best of our ability, policy makers and other stakeholders on the current status of information available to Ford while the rules for implementing the conflict minerals legislation were in development.

In addition, through an international forum provided by the Organization for Economic Cooperation and Development (OECD), the United Nations and the governments of the affected African states, Ford has participated in dialogue with multiple stakeholders, including NGOs active in the area of concern. We have also provided input to the development and upcoming implementation phase of the OECD Framework for Due Diligence regarding conflict minerals. This framework provides practical guidance to companies throughout the supply chain on a set of actions that can be taken to ensure responsible due diligence.

Risk Assessment

Ford intends to utilize an existing automotive industry database that tracks material content at the part level to analyze the presence of conflict minerals in our vehicles. The database currently tracks material content to monitor for the presence of certain regulated substances; it does not indicate where materials originated. While the presence of the four conflict minerals may, in some cases, be reported to the system by suppliers, reporting of the geographic source of these minerals has not been required to date (as it previously had not been regulated).

In 2011, Ford issued new reporting requirements to suppliers asking for full content reporting of

Related Links

This Report:

- Human Rights in the Supply Chain: Ford's Global Working Conditions Program

External Websites:

- AIAG
- U.S. State Department
- International Labor Organization
- United Nations Global Compact
- Organization for Economic Cooperation and Development
- Interfaith Center for Corporate Responsibility

the four conflict minerals so as to achieve a more complete assessment of risk in our supply base of 1,400+ companies. This will give us a starting point for further supply chain inquiries, which should in turn enable the tracing of metals to the point of processing (i.e., the smelter).

Supply Chain Management Systems

Ford is implementing due diligence actions as guided by the OECD and United Nations Frameworks for Due Diligence. Critical to these frameworks is the identification of upstream and downstream portions of the supply chain from the central "pinch point" – the smelter or processor. In this model, Ford and all downstream companies are responsible for identifying the smelters used in the supply chain and ensuring that those smelters are appropriately validated as sourcing minerals that have not financially supported conflict. Ford is monitoring closely the development of these validation systems.

Within our direct control are Company policies and direct supplier relationships. Although Tier 1 suppliers to Ford make independent sourcing decisions – as do most companies within the automotive supply chain between Ford and the mines – we include in all of our contracts with suppliers explicit human rights terms. We also engage with our suppliers on the topic of policy and management systems through our strategic supplier framework, the Aligned Business Framework. Our ongoing work with these suppliers includes the development or enhancement of supply chain sustainability management. It is important that we fully align with suppliers on the approach to responsible sourcing of raw materials so as to avoid, where possible, unintended consequences, such as absolute bans on sourcing from the 10 countries listed in the U.S. legislation.

Industry Engagement

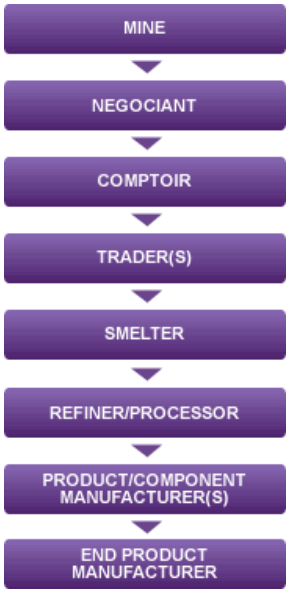
Industry engagement and a coordinated approach to supply chain requirements will greatly enable success and reduce the duplication of efforts and cost of implementation of due diligence. Ford is pursuing automotive industry collaboration at the AIAG, consistent with our approach to other supply chain sustainability opportunities. Ford chairs the industry workgroup on conflict minerals – a group consisting of six global automakers and several global Tier 1 suppliers. Actions taken by the group thus far include:

- Wide distribution of a Conflict Minerals Awareness letter from the six OEM vice presidents of purchasing to the CEOs of Tier 1 suppliers. The intent of the letter was to demonstrate a unified face to the supply chain on the issue, as well as to increase awareness to ensure timely action.
- Participation in a January 2011 industry conference on corporate responsibility, with a heavy emphasis on raw materials transparency in purchasing.
- Planning of a May 2011 webinar and a September/October 2011 industry event to keep the supply base well informed of evolving activity related to regulation, validation programs and customer requirements.

Future activity for the industry group may include collective action for information management, actual data requests and data management. The AIAG conflict minerals workgroup has been actively pursuing collaborative action with the electronics sector as well, given that industry's experience with this issue and possible solutions.

As this complex process unfolds – from mine certification to smelter validation programs to the publication of the SEC rules for federal regulatory compliance – Ford will strive to meet all expectations and require compliance and commitment to due diligence from our suppliers.

Conflict Minerals: Known Supply Chain Stages



In addition, illegal channels operate in parallel to this known supply chain, either leveraging these

actors, or via smuggling and other means.

Case Study: Forced Labor in the Pig Iron Supply Chain in Brazil

In 2006, Ford discovered that charcoal produced in Brazil with the use of slave labor had found its way into our supply chain. Pig iron is a key ingredient in steel production, and in Brazil, charcoal is often used as fuel in the production of pig iron (see the Pig Iron Producers graphic below). The charcoal is made from wood harvested in remote areas of Brazil where instances of forced labor have been found to occur. At the time this issue was brought to our attention in 2006, pig iron was purchased directly by Ford and used at our Cleveland Casting Plant.

When we learned of the situation, we immediately stopped sourcing from the site that was identified in the investigation, but continued dialogue and assisted in management systems development with the supplier until such time as the supplier could ensure it was not supporting forced labor in the supply chain for pig iron. We then identified all potential points of entry for pig iron in the Ford value chain and engaged with all relevant suppliers, seeking assurances from them that forced labor was not employed anywhere in their value chain. This included an intensive mapping of five to six tiers of suppliers (including importers, exporters and trading companies). We also requested additional detail regarding our Tier 1 suppliers' systems for safeguarding human rights throughout their operations, including procurement.

The Cleveland Casting Plant was closed in 2010, and Ford no longer directly purchases pig iron. Regardless, we have continued, through integrated supplier development programs to convey our prohibition of forced labor and validate, where possible, supplier compliance. Validation continues to be challenging given the number of supply chain actors between Ford and the charcoal camps in Brazil. For this reason, in 2011 we renewed our inquiry into the potential points of entry for Brazilian pig iron to our supply chain and are evaluating specific supplier progress on management systems to ensure responsible procurement of this material. We also are working with the U.S. State Department, the International Labor Organization and the governing committee of the Brazilian National Pact to Eradicate Forced Labor to seek multilateral solutions that will help to validate information and improve transparency. Ultimately, we hope to enable responsible purchasing decisions throughout the supply chain.

California's New Transparency in Supply Chains Law

Beginning in 2012, many companies manufacturing or selling products in the state of California will be required to disclose their efforts (if any) to address the issue of forced labor and human trafficking, per the California Transparency in Supply Chains Act of 2010 (SB 657). This law was designed to increase the amount of information made available by companies with regard to efforts to eradicate forced labor and human trafficking, thereby allowing consumers to make better, more informed choices regarding the products they buy and the companies they choose to support.

Forced labor and human trafficking can take many forms, including child labor. Ford has a zero-tolerance policy for both forced labor and child labor. As evidenced through our work with charcoal/pig iron in Brazil, we immediately took the opportunity to address the threat of this issue deep within our supply chain and have instituted a number of actions to safeguard against the use of forced labor. For example:

- We regularly assess risk related to our supply base. Preliminary assessment is based upon geography, the commodity purchased, the level of manual labor required for part/assembly production, the supplier's ownership structure, supplier quality performance and the nature of the business transaction. This risk assessment is performed by Ford with input from external stakeholders. In-depth supplier self-assessments are conducted biannually with our strategic suppliers as a part of the development program.
- Our Code of Basic Working Conditions forbids the use of forced labor, child labor and physically abusive disciplinary practices. Our definition of forced labor is inclusive of trafficking, and this is being made explicit in 2011 revisions to our Code.
- Ford purchase orders require the certification of compliance with our prohibition of forced labor, child labor and physical disciplinary abuse as part of our Standard Terms and Conditions in supply arrangements. Included also in this certification is compliance with international standards and applicable laws and regulations regarding forced labor and child labor. We reserve the right to terminate our relationship with a supplier if issues of noncompliance with our policies are discovered and/or noncompliance is not addressed in a timely manner.
- Training and Capability Building
  - We regularly conduct internal training on our Code of Basic Working Conditions with all of our purchasing staff, including management. Additional training is conducted regarding our Supply Chain Sustainability Program, including coverage of the Code and our Global

Related Links

This Report:

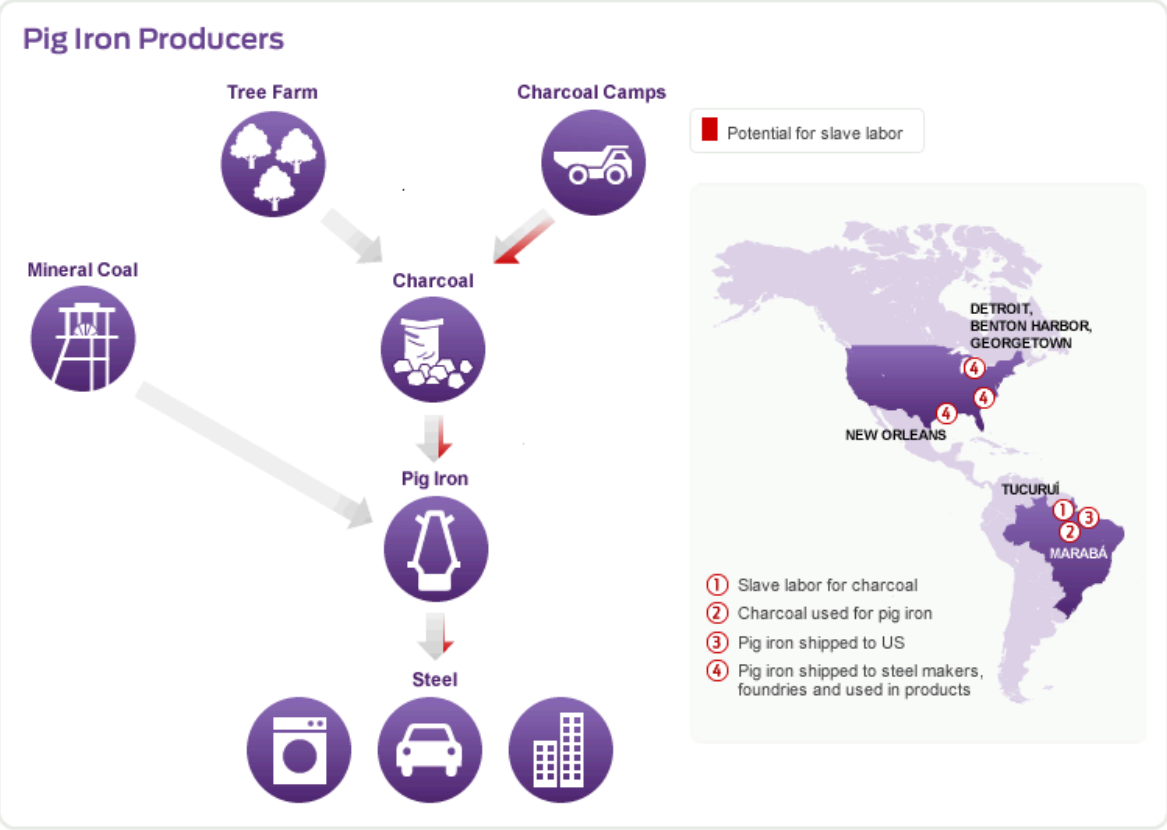
- Code of Basic Working Conditions
- Supplier Diversity Development

Working Conditions Program, emphasizing the role of our buyers in responsible decision making.

- Ford requires suppliers in high-risk markets to attend training that increases awareness of Ford and legal requirements, including those related to forced labor and child labor, and enables management systems that will ensure compliance over time. We conduct this training as Ford and as an industry effort through the AIAG.
- Ford and five other automakers at the AIAG have created training for buyers and supply chain managers on Supply Chain Sustainability. This training addresses issues including supply chain risk assessments, policy and supplier contract development and other actions that can be taken to ensure that forced labor and child labor do not enter the automotive supply chain.

- Ford regularly conducts audits of at-risk Tier 1 supplier factories to monitor compliance with Ford expectations and legal requirements. Following audits, suppliers are required to complete corrective action plans, which Ford reviews and approves. The corrective action plans outline how a supplier will resolve issues uncovered in audits and include clear responsibility and timelines for completion. We return to the facility within 6–12 months as required to confirm resolution of the issues. As mentioned, Ford has a zero-tolerance policy for the presence of forced and child labor. Forced labor has never been identified by third-party assessments of our supply chain, although lack of a forced labor policy at the supplier level is common and is always an element addressed in the Corrective Action Plan when identified.

  - These audits are independent and announced. We choose which facilities to audit based upon our risk assessment as described above. Our supply chain work has demonstrated to us that the risk for issues such as forced labor and child labor (as well as other human rights and working conditions issues) are relatively low for Tier 1 suppliers. The risk increases, however, the further down the Tiers of suppliers toward the source of the raw materials. Ford does not have visibility or direct access to these suppliers for the purpose of verification, and thus we work with our Tier 1 suppliers as well as other industries, NGOs and governments to explore the options for appropriate validation systems.



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Supply Chain Environmental Sustainability

Ford has worked with our suppliers for decades to improve the sustainability of their products and processes – and to gain their support in improving our own sustainability performance. We have committed to providing suppliers with a range of support and assistance based on our experiences in this area. Ford was the first automaker to require its suppliers to certify their environmental management systems to the globally recognized standard, ISO 14001. We regularly engage with our suppliers on sustainability issues and have focused initiatives to improve understanding of environmental impacts and improve practices in several areas, including greenhouse gas emissions, materials management and logistics.

Related Links

This Report:

- Greenhouse Gas Emissions
- Materials Management
- Logistics

External Websites:

- ISO 14001

Toolbox

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Supplier Environmental Management

We are continually improving our systems for influencing the integration of sustainability throughout our supply chain. ISO 14001 certification is expected of all "Q1," or preferred, production suppliers as well as nonproduction supplier facilities if the supplier has a manufacturing site or a nonmanufacturing site with significant environmental impacts that ships products to Ford. In 2006, we attained our goal of having 100 percent of our Q1 production suppliers gain ISO 14001 certification for facilities supplying Ford. We also encourage our suppliers to extend the benefits of improved environmental performance by requiring their own suppliers to implement environmental management systems as well.

We have added environmental requirements to the formal agreements that we make with our suppliers. These requirements cover a range of issues, such as reducing materials of concern, using Design for Sustainability principles, increasing the use of sustainable materials and using materials that will improve vehicle interior air quality. We ask suppliers to use recycled materials whenever technically and economically feasible. All recycled materials are evaluated in-house to guarantee that they deliver appropriate mechanical properties and the same level of performance that would be obtained with virgin materials.

We look for opportunities across our organization to purchase environmentally superior goods and services. During 2010, for example, we required that our new personal computer purchases be certified as meeting comprehensive environmental criteria.

Supplier Engagement on Environmental Sustainability

As we do for other important issues like human rights in the supply chain, we take a three-pronged approach to engaging with suppliers on environmental sustainability issues. We work with individual supplier factories; with key suppliers' corporate management and in cooperation with other automakers to influence practices across the automotive supply chain.

Supplier Factories

Each Tier 1 manufacturing site providing parts to Ford is required to have ISO 14001 certification. Additionally, we have integrated environmental management content and expectations into the supplier training programs to be conducted from 2011 forward. This was done on a pilot basis for the 2010 Turkish supplier training and feedback has been used to fine tune the content as appropriate for the audience. We feel this is another action we can take to help build supplier capability to manage these issues effectively. This content expansion further aligns our training activity with our Code of Basic Working Conditions.

Engagement with Suppliers' Corporate Management

As part of the Aligned Business Framework (ABF), ABF suppliers commit to managing and ensuring responsible environmental management in their facilities and in their supply chain.

During the fourth quarter of 2010, we held our annual ABF sustainability meeting in Dearborn, Michigan. It was attended by senior management from Ford and our ABF suppliers. The meeting included a workshop on sustainable supply chains and updates on sustainability management topics including greenhouse gas management. Our update at this meeting provided to ABF suppliers a summary of the results of the supplier GHG emissions survey that Ford conducted in 2010 and provided the suppliers with insight as to next steps.

Industry Collaboration

We work in cross-industry forums to encourage common approaches to the supply chain challenges of our industry. We have been further integrating environmental sustainability and greenhouse gas management issues into our work with the Automotive Industry Action Group (AIAG). Through the AIAG, we helped to establish common industry guidance and a reporting format for greenhouse gas emissions, to be used by global automakers and Tier 1 suppliers. Our initial 2010 survey and results heavily influenced the AIAG guidance and reporting format, as Ford was the only automaker exploring Scope 3 greenhouse gas emissions and related risks and opportunities.

Since 2007 we have been a member of the Suppliers Partnership for the Environment, an innovative partnership between automobile original equipment manufacturers, their suppliers and the U.S. Environmental Protection Agency. This partnership works to create new and innovative business-centered approaches to environmental protection and provides a forum for small, midsize and large automotive and vehicle suppliers to work together, learn from each other and share environmental best practices.

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- Case Study: Green PC Purchasing Initiative

External Websites:

- ISO 14001

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Greenhouse Gas Emissions

In 2010, Ford took significant steps to better understand the risks and opportunities of greenhouse gas (GHG) regulation and climate change for our suppliers and, by extension, for our Company. We conducted a pilot project with a select group of our suppliers to better understand the collection and reporting of greenhouse gas emissions data in our supply chain. Our goal is to better understand the carbon footprint of our supply chain and use the data to create a broad-based carbon management approach for our supply chain. We have a comprehensive commitment and strategy to reduce greenhouse gas emissions from our products and operations, detailed in the climate change section, which enhances our competitiveness. We hope to help promote similar competitiveness throughout the automotive supply chain.

Scope 3 Greenhouse Gas Accounting and Reporting

Ford was a "road tester" of the Scope 3 Greenhouse Gas Accounting and Reporting Standard developed by the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD). Ford had also been an original participant in the review and development of the internationally accepted Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, which addresses Scope 1 (direct) and Scope 2 (indirect) emissions.

The new draft Scope 3 (corporate value chain) Standard provides a step-by-step methodology for companies to quantify and report their Scope 3-related GHG emissions, and is intended to be used in conjunction with the GHG Protocol Corporate Accounting and Reporting Standard. It will provide a standardized method to inventory the emissions associated with corporate value chains, taking into account impacts both upstream and downstream of the Company's operations.

The draft standard was developed through a global, collaborative, multi-stakeholder process, with participation from more than 1,000 volunteer representatives from industry, government, academia and nongovernmental organizations. The road testing process was designed to provide real-world feedback to ensure that the standards can be practically implemented by companies and organizations of different sizes and from a variety of sectors and geographic areas around the world. WRI/WBCSD collected feedback from 60 stakeholders and issued a draft standard in November 2010. Ford was the only automotive company to participate. The final Scope 3 Standard is scheduled to be published by WRI/WBCSD in September 2011.

Carbon Disclosure Project's Supply Chain Program

In 2010, Ford also joined the Supply Chain Program of the Carbon Disclosure Project's (CDP). Through this effort, Ford worked with selected suppliers to gather qualitative as well as quantitative information about the suppliers' management of climate risks and emissions. Ford participated to gain experience with the supplier survey and better understand our suppliers' capability to measure, manage and report their emissions. Ford was the only automotive company to participate in the CDP Supply Chain Program in 2010.

As part of its participation in both the WRI/WBCSD and CDP initiatives, Ford surveyed 35 suppliers regarding greenhouse gas emissions management. These suppliers were identified through a variety of criteria, which included, but weren't limited to:

- The GHG intensity of the commodities supplied,
- The nature of the business relationship with Ford, and
- The geographic footprint of the supplier's global operations.

The 35 chosen suppliers represented close to 30 percent of Ford's $65 billion in annual procurement spending in 2009. We achieved a 75 percent response rate from the surveyed suppliers.

A key finding from the responses was the variability in supplier readiness to measure and report GHG emissions. The qualitative responses received provided valuable insight into the risk management opportunities for the broader automotive supply base. From these results, 80 percent of respondents indicated that they track their GHG emissions, and 50 percent of those companies indicated that they externally report their emissions. The results clearly demonstrated that those high-impact suppliers that we had hoped were paying attention to GHG emissions, in fact were doing so. However, these results may not represent the broader global automotive supply base's readiness to track, report and proactively manage GHG emissions.

In 2011 Ford is expanding engagement on GHG emissions management by more than 350 percent, engaging with suppliers across a much broader selection of production, information technology, and logistics suppliers.

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- Climate Change Risks and Opportunities

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Materials Management

We are working with our suppliers to increase their use of sustainable materials and eliminate undesirable materials. While Ford has already made great strides in using more sustainable materials in our products (as discussed in the Sustainable Materials section), we can expand these efforts by systematically working with our suppliers on these issues. Toward that end, we are developing Commodity Business Plans and other materials purchasing strategies that require the use of sustainable materials. For example, we developed a purchasing strategy for recycled plastics resins and Commodity Business Plans for relevant parts that require the use of post-consumer recycled plastics.

More and more countries are adopting regulations governing the use of materials including chemicals and substances of concern. In 2007, for example, the European Union adopted REACH (Registration, Evaluation, Authorisation and Restriction of Chemical substances). The goal of the REACH legislation is to improve the protection of human health and the environment through better and earlier identification of the intrinsic properties of chemical substances. All manufacturers operating in Europe must provide information on the properties and safe handling of their chemical substances to a central database in Helsinki. In addition, the legislation calls for the progressive substitution of the most dangerous chemicals, once suitable alternatives have been identified. REACH provisions will be phased in over 11 years.

Turkey and Romania adopted their own versions of REACH in 2009; China adopted its own version in October 2010. South Korea and Japan will also soon adopt REACH-like regulations to manage their chemicals. In the U.S., the Senate and House both proposed bills in 2010 to overhaul the Toxic Substances Control Act, which was first enacted in 1976, and the state of California is planning to implement a "green chemistry" law in 2011. Ford's Global Materials Management Program will provide an effective and efficient way for Ford to be a leader among auto companies in managing materials and meeting these types of global chemical and environmental regulations.

The recent focus on conflict minerals and raw materials issues has injected an additional concern into materials management: not only is it important to consider the properties of the materials we use, but also their origin and the conditions under which they were extracted and processed, These issues are discussed in the section on sustainable raw materials.

Materials Management Processes and Tools

Even before REACH-type regulations were adopted, Ford was managing materials across the vehicle lifecycle as part of our Global Materials Management Program. We use a set of processes and tools to assist us in communicating materials- and substance-related requirements to suppliers, and in tracking the materials and substances that they use in the parts they manufacture. These tools include the Global Material Approval Process (GMAP), which handles all materials processed in Ford's plants; Global Material Integration and Reporting (GMIR), a materials tracking tool for our engineers and suppliers; and the International Material Data System (IMDS), a reporting system used by multiple automakers.

The IMDS was developed by seven auto manufacturers (including Ford) in 1997 to handle the tracking, review and reporting of all vehicle components and service parts from all suppliers. Twenty-eight companies globally are now official members. The IMDS is a web-based system used internationally by suppliers to report on the substances and materials contained in parts for our vehicles. Ford has cooperated with other automakers to align reporting requirements for restricted substances and to analyze the data provided. This helps us to identify substances and materials of concern and target them for elimination. It is also a tool Ford is beginning to leverage to identify risks associated with conflict minerals and other raw materials.

To further help our suppliers manage their materials and substance data, Ford developed and launched GMIR. Through the GMIR Supplier Portal, Ford lists all the parts that require reporting by suppliers; we also list suppliers' reporting and certification status. Thus the system allows every supplier to monitor its reporting status and understand which parts are required to be reported. This two-way communication helps clarify a very complex materials management task and saves time and money for Ford and its suppliers.

Thanks largely to the GMIR Supplier Portal, in 2010 Ford gathered more materials data from its suppliers than any other automaker. Ford vehicle programs used the IMDS to report 100 percent of materials and all the required substance data to fulfill or comply with all governmental regulations and requirements including the end-of-life vehicle directives in the EU, South Korea and Japan, and REACH in the EU.

For nondimensional materials (such as paint and adhesive) that are shipped directly to Ford plants, Ford uses GMAP – an electronic tool aimed at simplifying the global materials approval process. The GMAP process allows suppliers to use electronic transactions to submit their

Related Links

This Report:
- Sustainable Materials
- Sustainable Raw Materials

External Websites:
- REACH

Material Safety Data Sheets and composition data. Internally, Ford approvers communicate their decisions of approval or rejection electronically. This new process saves time and ensures better-quality data for complying with government regulations and Ford policies.

In response to REACH legislation, Ford has developed additional systems to track and manage the use of chemicals. Ford has taken a leadership position in implementing REACH. For example, Ford has been a key member of the Global REACH Automotive Task Force and was the first chair of this taskforce. Ford is also the chair of the North American Automotive Industry Action Group's REACH Advisory Committee.

Ford has made great progress in complying with REACH. For example, we created a REACH manager position and formed a REACH taskforce to manage relevant activities, including conducting REACH inventory studies and generating all required reports for customers and consumers. In addition, we have worked extensively with our suppliers to ensure their compliance with REACH thus far. Ford's existing Global Materials Management Program has made it much easier for Ford and our suppliers to comply with these new requirements. Using these systems, for example, Ford conducted all of the "Substances of Very High Concern" inventory studies required by REACH and generated all required reports for consumers and governmental agencies. In addition, we have added all of the "Substances of Very High Concern" to our own Restricted Substances Management Standard: this ensures that we will get the necessary reporting from our suppliers. As a result of these efforts, Ford has the highest supplier response rate in the auto industry, and all of Ford's REACH-affected suppliers have committed to following REACH requirements through Ford's Global Materials Management Program.

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Logistics

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- Greenhouse Gas Protocol
- Carbon Disclosure Project

Ford's physical logistics operations provide the safe and efficient transport of parts from our supply base to our manufacturing plants (our "inbound" freight) and of finished vehicles from the end of our assembly lines to our dealerships (our "outbound" freight). Although logistics account for a relatively small percentage of total vehicle lifecycle emissions, we are working hard to maximize the efficiency of these operations to reduce their environmental impact. This work is managed by Ford's Material Planning and Logistics organization (MP&L), which is the department responsible for the design and operation of our global transportation networks and for engineering high-quality and efficient packaging to protect parts in transit.

Green Logistics

Ford MP&L applies a global approach to addressing the environmental aspects of our logistics operations. In 2008 we established an international team to coordinate our reporting activities and to share best practices. We manage activity via subject matter experts in our four operating regions (Europe, North America, Asia Pacific and Africa, and South America) and in 2010 we created a central "green logistics" intranet site to assist in standardizing our procedures and in communicating latest information. During 2010 and 2011 our major focus has been on greenhouse gas emissions with two key work streams – carbon dioxide (CO_2) emissions reporting and CO_2 emissions reduction. The fact that freight emissions are so closely tied to fuel usage means that this focus on emissions reduction will in itself encourage actions that will help us achieve our other environmental goals.

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Freight Emissions Reporting

Understanding and quantifying our freight CO_2 emissions is important to us for a number of reasons including:

- Helping us to understand our overall environmental impacts
- Enabling us to prioritize actions to reduce emissions
- Allowing us to calculate the full carbon footprint of our supply chains
- Providing data for the overall lifecycle carbon footprint of our vehicles
- Providing data for our customers

In 2006, our European operations, with the support of our European lead logistics partner DHL International, first began producing basic CO_2 metrics for our inbound road and rail network. During 2008 and 2009, Ford and DHL supported a Masters Project at Cologne University to better understand reporting techniques and to tune our methods to the latest academic thinking.

Since that time we have greatly expanded our reporting. At the start of 2009 we began internally reporting CO_2 emissions for our North American land-based networks. In 2010, following work with our transatlantic lead logistics partner UTiWorldwide, we introduced CO_2 emissions reporting for ocean freight. In 2010 we also began collecting data for our Asia Pacific networks and are developing processes for reporting in South America.

For 2011, we have updated our emissions calculations to take account of other greenhouse gases including N_2O and methane.

Tracking transport emissions data allows us to study the impacts of different sourcing patterns. MP&L is working closely with Purchasing on value stream mapping projects to help us compare the transportation and manufacturing footprints in different source locations.

Throughout 2010 and 2011 Ford has played a major role in supporting the development of internationally recognized reporting standards. We have been assisting the World Resource

Institute and the World Business Council for Sustainable Development with their new Greenhouse Gas Protocol Scope 3 reporting standards by carrying out “road testing” of those standards and providing active feedback. In Europe, we have been a member of the UK Department for Transport’s Low Carbon Transport Supply Chain Steering Group and helped formulate their Guidance on Measuring and Reporting Greenhouse Gas Emissions, published in December 2010.

We are actively involved in engaging others in the industry and in 2010 delivered lead presentations on freight emissions reporting to a wide range of conferences and industry association seminars, including the Association of Climate Change Officers, the Automotive Industry Action Group, the Verband der Automobilindustrie and the Society of Motor Manufacturers and Traders.

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Freight Emissions Reduction

The efficient design and operation of our networks is key to improving the environmental footprint of our freight. There is a direct correlation between the use of greener modes (such as rail and water), reducing miles traveled, increasing vehicle utilization and reducing emissions.

In general, we choose to contract and manage our own freight networks rather than have freight contracted by our suppliers. For example, we collect parts from our suppliers’ factories rather than have the suppliers deliver parts to our assembly plants. This gives us better control and allows us to optimize collections and deliveries across all pick-up points and destinations and so minimize the total amount of transport required. Our inbound network is fully integrated with regional distribution centers, so that material for different plants can be collected together and then cross-loaded onto trailers routed to different final destinations. Our transatlantic freight is integrated into the domestic networks operated by Ford of Europe and Ford North America. This integration has resulted in a reduction in the number of vehicles collecting materials from shared suppliers.

We work closely with our Lead Logistics Providers (LLPs) to improve our network designs. We use a number of methods – for example “milk run” routes, where groups of collection points are identified that can be visited by a single truck. Our LLPs continuously review shipping quantities and collection frequencies, with the aim of ongoing improvement. The net effect of these kinds of strategies is to minimize the number and length of journeys required.

As a further step to increase overall transport efficiency, we have implemented contracts that encourage our freight carriers to carry third-party freight on return journeys rather than returning home empty, which not only gives us a cost benefit but reduces overall traffic on the roads.

Part of our business plan is to maximize the use of “green routes” – rail, river and short sea transport – for the transport of inbound parts and outbound vehicles to reduce fuel costs, emissions and road congestion. The environmental impact of rail freight is significantly less than that of road freight. It has been estimated that switching from road to rail can reduce CO_2 emissions by 40 percent.

For some time we have made use, where possible, of traditional rail services. For example, we move material by rail between our Cologne logistics hub in Germany and our Transit plant at Kocaeli in Turkey, and we move engines by rail from our Bridgend plant in Wales to our Valencia plant in Spain.

It can be difficult to expand the use of rail freight because rail terminals are not always sited near the facilities from which and to which we need to make materials and parts deliveries. One solution we have adopted to overcome this difficulty is to use “SWAP bodies” – standard freight rail containers that can be lifted onto dedicated road trailers. This kind of approach combines the environmental friendliness of rail for long distances, with the flexibility of road transport at either end of the journey.

In 2010 and 2011 we expanded our use of these intermodal approaches. In particular we have increased the use of a system for lifting an entire road trailer onto a specially designed rail wagon for moving parts from our suppliers in Italy to our assembly plant in Genk, Belgium. We use a similar process to transport materials to Genk from suppliers in Scandinavia.

We continue to utilize a combined road/rail route process from northern Spain and southern France to our Saarlouis facility in Germany. In this system, standard truck trailers from suppliers in Spain are driven directly onto rail wagons at a special terminus at Perpignan, France, near the Spanish border, and then carried by train more than 1,000 km to Luxembourg, from where they are taken by road to Saarlouis. This approach is not only more environmentally friendly, it also reduces road congestion: the train-based freight from Perpignan to Luxembourg has the potential to keep 40 truck trailers a day off of French roads.

We also continue to develop water-based transport options in Europe for our outbound vehicle deliveries. Following this approach, inland road-based transport within Spain is greatly reduced by using six different ports of entry. Also, we use the Black Sea for imports into Russia. Where possible, we take advantage of inland waterways as well: we use barges from our Cologne facility to a number of ports to the north and south and another barge route operates between Romania and Bavaria.

Actions by Ford of Europe to reduce the carbon footprint of its vehicle transportation logistics operation were recognized by a prestigious Supply Chain Distinction Award in 2009. The judges honored the team for its performance in environmental supply chain planning and execution.

In North America, rail is used for efficient long-distance transport of commodities such as metal stampings and powertrains. A single 86-inch-high cube railcar can carry cargo equivalent to three to four 53-foot truck trailers. At the beginning of 2010, Ford's rail and intermodal rail shipments in North America represented almost 40 percent of the network distance traveled, while accounting for less than 15 percent of the network carbon footprint.

Our Finished Vehicle logistics team in North America has focused its recent carbon footprint reduction efforts on reducing the number of miles traveled per vehicle transported within the network, thereby lowering the amount of fuel consumed to deliver them. In 2010, transportation miles were reduced by 42.5 million miles in total compared with 2009 despite an increase in auto sales, and the network is an efficient 70 percent rail miles/30 percent road miles. This mix provides an effective blend of cost, speed to market and carbon emissions management, given North American geography.

The modernization of the transportation fleet with a view toward fuel efficiency is an objective of shippers and carriers alike. Our North American logistics operations are also focused on improving load density, or the number of vehicles carried per conveyance, as a means to lower the number of conveyances employed, and thereby reduce the amount of fuel consumed.

North American inbound logistics and parts supply operations are also making substantial network efficiency improvements. Inbound production material and service parts transportation distances were reduced between 2009 and 2010 by 17.6 million and 2.7 million miles respectively.

A major reduction in emissions for transatlantic freight has been achieved by implementing direct ocean shipments between Mexico and Europe. Previously, material had been routed via a North American port, but now lengthy road transport is avoided and a 40 percent reduction in CO_2 emissions has been achieved.

In addition to looking at network design, other opportunities to reduce environmental Ford's footprint exist within the design and operation of the transport equipment itself.

For example, we worked with the Georgia Institute of Technology to identify guidance on equipment modifications to reduce fuel usage. We shared this and other potential best practices along with the results of internal testing at regular communications meetings with our carriers. We also survey our carriers on their implementation of fuel-efficient practices.

We have also been working on practical applications for alternative fuel and engine technologies in our logistics activities, and have carried out a number of trials using our in-house transport fleets. Our Ford Rawsonville fleet has been certified by the U.S. Environmental Protection Agency's SmartWay program and is monitoring improvements to its truck fleet's fuel usage. Our North American operations also work to decrease the number of transport runs required by making improvements in packaging density and trailer cube utilization as well as mode changes where possible to reduce fuel consumption.

Ford of Europe's in-house transport operations have been implementing a number of initiatives to reduce the emissions of their trucks. These initiatives include training in fuel-efficient driving and increasing the use of bio-fuels. Also, we use a fuel additive on major inbound routes to reduce harmful nitrous oxide emissions. We have implemented driving speed limiters to improve fuel economy and use deflectors on new trailers to improve the vehicles' aerodynamics. These and other efforts have allowed us to comply with Euro V emission rulings and reduce our emissions-related road tax costs. Our UK Transport Operations are actively supporting the Freight Transport Association's Logistics Carbon Reduction Scheme.

We are now beginning to investigate the possibilities of electric propulsion for freight transport. We are installing 10 solar-powered electric vehicle-charging stations at the Michigan Assembly Plant to demonstrate advanced battery-charging technologies for vehicles using renewable energy and other smart-grid advances. The stations will be used to recharge the electric switcher trucks that transport vehicle parts between adjacent buildings at the manufacturing site.

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Packaging

Ford MP&L's Packaging Engineering department focuses on designing, procuring and optimizing packaging on a part-by-part basis to best suit the components being moved and the transport required.

Packaging directly impacts a number of environmental elements throughout its lifecycle, including materials usage, freight and waste disposal. Over years of testing, tracking and performance improvement, we have confirmed that the best strategy to eliminate material waste and optimize freight efficiency is to use durable and returnable packaging for all but the longest supply chains.

We have developed a standard range of packaging that not only protects parts and makes them easy to handle at the assembly line, but also allows maximum storage density during transportation, thereby minimizing transport requirements. We review the packaging of production trial parts to assess opportunities to increase packing density prior to the full-volume launch of a product.

One of the benefits of standardizing packaging is that it makes packaging interchangeable between suppliers and programs. In Europe, we have contracts with third-party specialist packaging providers to control the issue, collection and pooling of standard packaging for our

suppliers. This pooling greatly reduces transport requirements, as the packaging can be shipped to where it is next required rather than always having to return it to the supplier who last used it.

Currently, our European operations use 90 percent reusable containers, and we are seeking to increase that amount. For example, we are working to develop more direct routing for parts to our St. Petersburg, Russia, plant so that it is viable to use returnable packaging. We are also introducing returnable steel racks for much of our new transatlantic shipments that previously would have been shipped in disposable material.

We are working closely with packaging suppliers to take advantage of new developments. In Spain, we are introducing dedicated designs that include specially designed foldable internal packaging that avoids the need for disposable internals. It is also lighter and easier to handle than conventional standardized returnable packaging.

The European powertrain packaging team is introducing a novel approach to packaging returns. The empty packaging is broken down into small chips that are then returned in sacks to be remade in to new packaging close to the original supplier location. This dramatically reduces the volume of the return shipments, and thereby the transportation costs and emissions.

An example from our Asia Pacific and Africa region is their implementation of returnable packaging for hazardous material shipments such as of air bags from Europe to China. Previously this part had been handled by air shipment, but now it can be shipped by sea, giving a considerable saving in emissions.

We are now working globally to share best practices between regions and to drive consistency in packaging for future global vehicle programs. Ford's latest packaging guidelines require that supplier-provided packaging supports corporate sustainability goals by seeking a neutral or positive environmental footprint through zero waste to landfill and use of 100 percent recycled, renewable or recyclable materials.

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The Evolution of Green Logistics

For 2011, we have expanded our engagement with the Carbon Disclosure Project and others to include many of our key carriers and logistics service providers. Within Material Planning and Logistics, environmental considerations form a key part of our business plan. We are actively establishing strong dialogues with our major carriers and service providers to share ideas and methods with the aim of pushing our green logistics to new levels of collaborative best practice.

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Supplier Diversity Development

Ford remains strongly committed to utilizing and developing supplier companies that are owned by minorities and women. Our Supplier Diversity Development office works with business leaders, trade associations and community-based organizations that represent the interests of diverse businesses.

Our annual goal is to source 10 percent of U.S. purchases from minority- and women-owned businesses. Our record of minority supplier development has earned Ford a seat at the "Billion Dollar Roundtable," an exclusive group of 17 companies that purchase a minimum of $1 billion annually from diverse suppliers.

In 2010, Ford purchased $3.8 billion in goods and services from approximately 200 minority-owned suppliers and more than $866 million in goods and services from more than 150 women-owned businesses. Our 2010 results were an improvement over 2009, exceeding our sourcing goals for both minority- and women-owned suppliers.

Ford is unwavering in its commitment to incremental year-over-year percentage increases in sourcing from diverse suppliers. We encourage similar actions across our supply chain. In 2010, more than 400 of our largest Tier 1 suppliers purchased more than $1 billion from minority- and women-owned enterprises in support of Ford business.

In 2010, Ford added two minority-owned suppliers to our Aligned Business Framework (ABF) suppliers: Uniworld Group, Ford's African-American advertising agency of record, based in New York; and Zubi Advertising, Ford's Hispanic agency of record, based in Miami. At the end of 2010, we had 12 minority- and women-owned ABF suppliers.

Ford's minority- and women-owned suppliers are also playing an important role in the company's revitalized product line. These opportunities provided minority- and women-owned suppliers with new business valued at more than $150 million during a period when purchasing budgets and the supply base were being downsized.

Examples include the following:

- Dakkota Integrated Systems, a woman- and Native American- owned supplier based in Holt, Michigan, successfully launched fascias and headliners for the 2011 Ford Explorer, an all-new version of the vehicle that defined the SUV segment.
- GrupoAntolin Wayne, an African-American-owned supplier based in Canton, Michigan, launched interior headliners for the new Focus and was awarded headliner business for the C-Max.
- T&K Logistics, Inc., a woman-owned enterprise based in Northeast Ohio, is providing switching and yard management services to the Michigan Assembly Plant, utilizing the first application of zero emission electric switching vehicles in the automotive environment.
- Gonzalez Production Systems, a Hispanic-owned supplier, is expanding in Ford's final manufacturing assembly area with its vision-aided robot technology. The company, based in Pontiac, Michigan, has won contracts for the next-generation Focus, as well as another product from Ford's global C-car platform.
- Marimba Auto LLC, a new minority-owned supplier, based in Belleville, Michigan, sourced Super Duty axle tubes.
- Systrand Manufacturing, a women-owned supplier based in Brownstown, Michigan, provided critical component machining for Ford's next generation hybrid transmission.

Related Links

This Report:

- Supporting a Great Place to Work

External Websites:

- UniWorld Group
- Zubi Advertising

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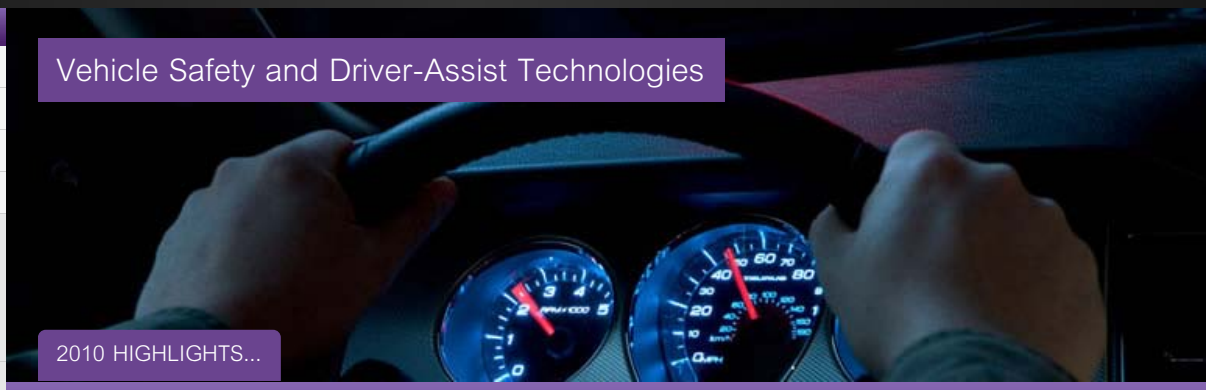
Vehicle Safety and Driver-Assist Technologies



2010 HIGHLIGHTS...

- Achieved IIHS Top Safety Pick for 2011 Fiesta – first vehicle in its class to do so
- Invested $1 million to expand Ford Driving Skills for Life to 15 states
- Launched research to create digital human body model of a child
- Expanded our investment in "intelligent vehicles"

Ford is a global leader in vehicle safety, and vehicle safety is a critical part of our company identity and reputation. We work to develop innovative technologies and to build in safety from the very beginning of each product development process. Indeed, safety is one of four principles that guide our every design and engineering effort.[1]

In 2010, the three major public domain ratings systems were revised – and made much tougher. Vehicle safety has continued to improve over the years, and the ratings agencies wanted to make it harder to achieve top ratings. The systems that changed include the New Car Assessment Program (NCAP) implemented by the U.S. National Highway Traffic Safety Administration (NHTSA), the Top Safety Pick program run by the Insurance Institute for Highway Safety (IIHS), and the EuroNCAP system sponsored by seven European governments as well as motoring and consumer organizations. (See How We Manage Vehicle Safety for an overview of the changes.)

Because of these changes, our ratings results this year cannot be meaningfully compared to previous years, although our vehicles are safer than ever. A comparison to other automotive companies' results reveals that we remain an industry leader in motor vehicle safety.

In fact, Ford has the most top U.S. safety ratings of any automaker ever. This includes more IIHS "Top Safety Picks" than any other manufacturer in the six-year history of this crash testing program and more NHTSA five-star ratings than any other manufacturer during 30 years of government testing. (To earn a Top Safety Pick, a vehicle must receive a rating of "good" in offset frontal impact, side impact and rear impact evaluations, and offer electronic stability control. Under the new testing scheme, Top Safety Picks also must earn a "good" rating in roof strength tests.)

Our recent safety highlights include the following:

- The 2011 Ford Taurus is one of the safest-rated large sedans sold in America, with NCAP ratings among the industry leaders for front impact and five-star NCAP crash ratings for side impact. The Taurus also earned a Top Safety Pick designation from IIHS and boasts a comprehensive list of segment-leading safety features.
- The all-new 2011 Ford Explorer, Edge and F-150 as well as the 2011 Lincoln MKX also earned Top Safety Pick designations.
- The 2011 Fiesta is the first vehicle in its class to achieve a Top Safety Pick, and also leads its segment for NCAP ratings. The Fiesta also was the first car in its segment to earn top crash test ratings in each of the world's largest auto markets that perform safety testing – the U.S., China and Europe.
- For the 2011 model year, the IIHS awarded 18 Ford vehicles with "good" ratings for frontal offset performance and 15 Ford vehicles with "good" ratings for side impact performance.
- In Ford's most recent EuroNCAP assessments, using their new testing and rating system, the 2010 Ford C-MAX and Grand C-MAX earned five-star safety ratings.
- Under the previous EuroNCAP system, the Ford Kuga and Fiesta achieved Ford's first three-star ratings for pedestrian protection. These cars also joined the Focus, Mondeo, S-MAX and Galaxy in having best-in-class, five-star adult protection and four-star child protection ratings.
- The Ford Fiesta and Mondeo were the second and third Ford cars (after the Focus) to be awarded five-star ratings in the Chinese NCAP.

Perspectives on Sustainability

Scott Belcher

President and CEO, Intelligent Transportation Society of America (ITS America)

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Related Links

Vehicle Websites:
- Ford Fiesta
- Ford Taurus
- Ford Edge
- Ford Explorer
- Ford F-150
- Lincoln MKX

Ford.co.uk:
- Ford Kuga
- Ford Fiesta
- Ford Focus
- Ford Mondeo
- Ford C-Max
- Ford Grand C-Max
- Ford S-Max
- Ford Galaxy

Ford.com.au:
- Ford Falcon

External Websites:
- National Highway Traffic Safety Administration
- Insurance Institute for

- The Ford Falcon was the first Australian-built car to be awarded five stars in the Australasian NCAP.

This section outlines our vehicle safety performance over the past year. It includes a discussion of current vehicle safety challenges and opportunities globally, how we manage vehicle safety within the Company, and our efforts to support and promote driver education. The section then discusses the advanced technologies that can be found on our vehicles. These technologies are organized into four categories: accident avoidance technologies, driver-assist technologies, occupant protection technologies and post-crash/injury mitigation technologies. We then discuss the various collaborative efforts we are undertaking with other organizations related to vehicle safety. The section concludes with two case studies: one looks in depth at the issue of driver distraction, while the other discusses developments in the realm of "intelligent vehicles."

For a discussion of Ford's positions on U.S. public policy issues relating to vehicle safety, please see the Governance section.

1. The other principles are quality, fuel efficiency and smart technologies.

Highway Safety
- European New Car Assessment Programme
- Australasian New Car Assessment Program

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Challenges and Opportunities

As we at Ford implement our global "ONE Ford" strategy, we are mindful that countries with different levels of economic and infrastructure development face different traffic safety challenges.

In the U.S. and other developed countries, traffic safety has significantly improved in recent years. Although the U.S. population has continued to increase, the number of traffic fatalities in the U.S. in 2009 reached its lowest level in 55 years, according to the National Highway Traffic Safety Administration (NHTSA). If early projections from NHTSA for 2010 prove accurate, the number of traffic fatalities in the U.S. in 2010 will also decline. In fact, the fatality rate per 100 million vehicle miles traveled has declined steadily since the late 1960s, and is now at the lowest level ever recorded. It declined to 1.13 deaths per 100 million miles in 2009, compared with 1.26 the year before. In the first half of 2010, the rate was 1.02.

Other developed countries have also seen improvements. The nonprofit Resources for the Future looked at traffic fatality data in 32 high-income countries between 1970 and 1999, and found that traffic fatalities declined in these countries by an average of 35 percent.

These improvements can be attributed to a combination of factors, including higher safety belt usage, advancements in vehicle safety technology, greater enforcement, better traffic infrastructure and increased cultural disapproval of driving under the influence.

Of course, traffic safety remains a significant challenge in these countries, with room for improvement. In the U.S. in 2009, more than 30,000 people died in motor vehicle crashes. Traffic crashes are the leading cause of death among U.S. teens. And, as discussed in depth in our case study, distracted driving is an important safety issue.

In developing countries, traffic safety is an acute public health problem. The World Bank reports that fatality rates in developing countries are 25 to 30 per 10,000 vehicles, compared to 1 to 2 per 10,000 vehicles in mature markets. Globally, nearly 1.3 million people die in traffic accidents. More than 1 million of those fatalities occur in countries with low- and middle-income economies. The World Health Organization estimates that deaths due to road traffic accidents will increase to 2.4 million in 2030, primarily owing to increased motor vehicle ownership and use associated with economic growth in low- and middle-income countries.

Many of the traffic deaths in developing nations involve pedestrians, cyclists and motor-driven cycles. As mobility increases in developing markets, people initially use two-wheeled motor vehicles, and the incidence of traffic accidents rises. As people migrate to automobiles, traffic accidents and injury levels generally decrease. During this transition, holistic solutions are required, including infrastructure improvements, the modification of road user behavior and the enforcement of traffic laws. One critical task is to educate drivers about the most important primary safety feature – safety belts.

In both developed and emerging markets, continued improvements in vehicle safety are also very important, and we at Ford continue to take seriously our responsibility to build safe vehicles.

Everywhere in the world, it is increasingly important for road safety stakeholders to work together using an integrated approach to any given safety initiative. To support this approach, we at Ford seek ways to partner with governments, nongovernmental organizations and other stakeholders to identify the best opportunities to promote safety based on real-world data. We have become more involved in encouraging new and innovative ways to modify road user behavior (for example, through new technologies, driver education efforts and working with government agencies such as the UK Driving Standards Agency) and encouraging infrastructure and enforcement improvements in the communities in which we operate.

Related Links

This Report:

- Case Study: Driver Distraction

External Websites:

- National Highway Traffic Safety Administration
- Resources for the Future
- The World Bank
- World Health Organization
- UK Driving Standards Agency

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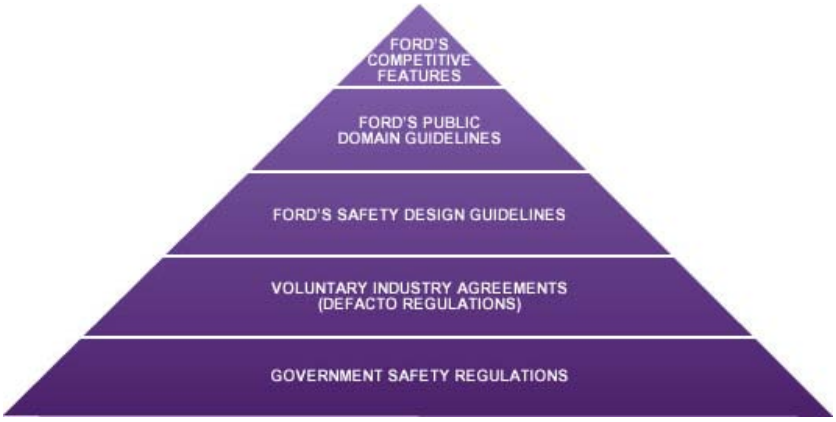
How We Manage Vehicle Safety

Here at Ford, our objective is to design and manufacture vehicles that achieve high levels of vehicle safety for a wide range of people over the broad spectrum of real-world conditions. Real-world safety data, driver behavior, research, regulatory requirements and voluntary agreements provide much of the input into our safety processes, including our Safety Design Guidelines (SDGs) and Public Domain Guidelines (PDGs). (See graphic below.) The SDGs are Ford's stringent internal engineering design targets that exceed regulatory requirements and define many additional requirements that are not regulated. The PDGs are Ford guidelines that focus specifically on helping to ensure that our vehicles earn top marks in relevant public domain assessments.



Our PDGs have been revised over the past few years to take into account significant changes in public vehicle testing programs. Globally, the public domain tests have become significantly more stringent. In the U.S., for example, the New Car Assessment Program (NCAP), run by the National Highway Traffic Safety Administration (NHTSA), has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal impact tests; and made significant changes to the injury criteria. In addition, NHTSA will now provide an overall vehicle score (a "star" rating, from one to five stars) representing a combination of the vehicle's front, side and rollover ratings. To earn a Top Safety Pick from the Insurance Institute for Highway Safety (IIHS), a vehicle must now receive a "good" rating for a new roof strength test, in addition to "good" ratings in front, side and head restraint assessments. EuroNCAP has added a test for whiplash neck injury protection in rear impact, and also now rewards speed limiters and the inclusion of electronic stability control technologies as a standard feature. Like NHTSA, EuroNCAP also now gives each vehicle an overall star rating representing a combination of individual ratings. (EuroNCAP made this change in 2009.)

Internally, Ford utilizes engineering analyses, extensive computer modeling and crash and sled testing to evaluate the performance of vehicles and individual components. These rigorous evaluations help to confirm that our vehicles meet or exceed regulatory requirements and our even more stringent internal guidelines. Our state-of-the-art crash-test facilities include the Safety Innovation Laboratory in Dearborn, Michigan, and the extensive crash-test facilities in Merkenich, Germany, and Dunton, England.

Global Technical Regulations

The automotive industry is highly regulated, and two systems of vehicle regulation predominate globally: the United Nations Economic Commission for Europe Regulations and the U.S. Federal Motor Vehicle Safety Standards. To meet the relevant regulations of each market in which it sells, a manufacturer must modify its vehicle designs and features. This is a particular challenge for Ford, given our increased focus on producing vehicles with the same platforms globally. It can increase vehicle complexity and cost, often without demonstrated, incremental real-world safety benefit.

With the aim of harmonizing world vehicle regulations, 31 countries are working together to develop Global Technical Regulations (GTRs). Ford actively participates in the GTR development process.

Thus far, 11 GTRs have been developed (though not all relate to motor vehicle types relevant to Ford). Progress has been slow due to the difficulty of reconciling varied national requirements and the historical differences of existing regulations. Despite these challenges, Ford continues to believe that true harmonization has the potential to significantly reduce complexity while maintaining high levels of vehicle safety, security and environmental performance, and we plan to

Related Links

External Websites:

- National Highway Traffic Safety Administration
- Insurance Institute for Highway Safety
- European New Car Assessment Programme
- Global Technical Regulations

continue supporting global harmonization efforts.

Haddon Safety Matrix

Vehicle safety is the product of complex interactions among the driver, the vehicle and the driving environment. We use the Haddon Safety Matrix (developed by William Haddon, a former NHTSA administrator and IIHS president) to take a holistic view of the factors that affect vehicle safety.

The Haddon Matrix looks at injuries in terms of causal and contributing factors, including human behavior, vehicle safety and the driving environment. Each factor is then considered in the pre-crash, crash and post-crash phases. In the pre-crash phase, the focus is to help avoid the crash. In the crash and post-crash phases, the primary objective is to help reduce the risk of injury to occupants during and after a collision. Another goal is to minimize the amount of time that elapses between the crash and when help arrives.

	Human Behavior	Vehicle Safety	Environment
			
Pre-Crash (accident avoidance)	• Research • Education • Advocacy	• Crash avoidance technologies • Security	• Road design for accident avoidance • Traffic control
Crash (occupant protection)	• Technology and proper use	• Restraints • Structures that absorb and reduce crash energy and intrusion	• Road design for injury mitigation • Research
Post-Crash (injury mitigation)	• Telematics	• Post-crash notification	• Emergency medical services
Examples of Ford Actions	• SYNC® technology • MyFord Touch™ driver connect technology • MyKey™ • Ford Driving Skills for Life	• Accident avoidance features • Inflatable safety belts • Roll Stability Control®	• Accident research • Development of “vehicle-to-infrastructure” communication systems

Driver Education

According to the U.S. Department of Transportation, human factors cause or contribute to more than 90 percent of serious crashes. And, traffic accidents are the number-one cause of death of teens in the U.S. More than 3,000 teenagers (aged 15–19) die on American roads each year.

Ford Driving Skills for Life (FDSFL), Ford's driver education program, demonstrates our commitment to educating teens about safer driving. FDSFL provides outstanding learning tools, including an award-winning curriculum with hands-on training and web-based learning, a teacher and parent educational kit, a teaching DVD designed for interactive learning, and printed materials to help young drivers improve their ability behind the wheel. Both the FDSFL website and "ride and drives" for teen drivers include modules on the importance of avoiding distracted driving. In addition, the program includes information about eco-driving, car care tips and information for mature drivers.

Ford Driving Skills for Life

In early 2011, the Ford Motor Company Fund invested an additional $1 million to expand the FDSFL program in the U.S. from 9 to 15 states. Students at a total of 30 high schools will take part in the new expanded program.

The FDSFL program is also being implemented outside the U.S. In 2008, Ford launched FDSFL in our Asia Pacific and Africa region, and in 2010 continued with the successful rollout of the program in Australia and South Africa. (In addition, FDSFL is in Indonesia, the Philippines, Thailand, Vietnam, China, Taiwan and India.) Ford has now provided training for thousands of licensed drivers in these markets.

In South Africa in 2010, Ford brought special attention to the FDSFL program by involving seven performers from the South African Idols singing competition in a ride-and-drive event. The performers learned new skills designed to make them safer and more fuel-efficient drivers, and also got to compete in a tough "skidpan" challenge testing their braking and steering skills. The event was featured in a subsequent edition of the Idols show.

Beginning in 2007, Ford partnered with the Illinois Department of Transportation, secretary of state and state police to launch a statewide effort – modeled on Ford Driving Skills for Life – designed to reduce teen crashes and fatalities. Called **Operation Teen Safe Driving**, this campaign was the first of its kind and got high school students directly involved by challenging them to develop and implement a teen safe driving community awareness campaign using FDSFL resources. This seven-month statewide effort – which now takes place annually – involves 778 schools in 102 Illinois counties, and has the support of the governor, the secretary of state and the Chicago board of education. In 2010 alone, the state estimates that the program touched 3.2 million Illinois residents.

The results have been remarkable: Illinois has seen a 45 percent reduction in teen fatalities over the last four years.

In recent years, distracted driving has received increased national attention as a contributing factor in motor vehicle crashes. We at Ford have been working for years to research the issue and develop voluntary guidelines, in addition to providing teen driver education and appropriate technologies to help reduce the risk of crashes due to distracted driving. Over the past two years our sustainability report has included a case study on distracted driving; the case has been updated for this year's report.

Related Links

This Report:

- Case Study: Driver Distraction

Ford Websites:

- Ford Driving Skills for Life

External Websites:

- Operation Teen Safe Driving

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Accident Avoidance Technologies

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Curve Control


Active City Stop


Adaptive Front Lighting System


Auto High-Beam Controller


MyKey™


AdvanceTrac® with Roll Stability Control®

A variety of Ford technologies, in addition to each vehicle's handling and braking capabilities, can help drivers to avoid accidents.

Curve Control

For example, Curve Control is a new technology launched on the all-new 2011 Ford Explorer. Curve Control is designed to sense when a driver is taking a curve too quickly. In those situations, it rapidly reduces engine torque and can apply four-wheel braking, slowing the vehicle by up to 10 mph in about one second. The technology is designed to be effective on wet or dry pavement, and is expected to be helpful when drivers are entering or exiting freeway ramps with too much speed. Curve Control will roll out in the majority of Ford products by 2015.

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Active City Stop

In Europe, Ford's Active City Stop can help the driver avoid low-speed collisions. The system uses a forward-facing infra-red laser, mounted next to the rearview mirror, to detect reflective objects in front of the car. The system continuously (100 times per second) monitors the distance to the vehicle in front and the closing speed, to determine the risk of a collision. If, for example, the car in front brakes suddenly, and the system considers that a collision is imminent, it pre-charges the brakes. If the driver does not react, the brakes are automatically applied and the throttle is released. Active City Stop is only active at speeds below 30 km/h (about 19 mph). If the relative speed difference between the two vehicles is less than 15 km/h, then the system may help the driver avoid the collision entirely. For relative speeds between 15 and 30 km/h, the objective is to reduce speed as much as possible prior to impact. Active City Stop is available on the new Ford Focus in Europe.

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Adaptive Front Lighting System

Another important Ford safety innovation is the next generation of adaptive headlamps. Our Adaptive Front Lighting System (AFLS) can help drivers to see better at night around curves in the road. The system allows drivers to take corners and curves more safely, and to consume less energy while doing so. The AFLS is available on all newer MK-designated Lincolns and on a number of vehicles across the Ford fleet in Europe.

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Auto High-Beam Controller

Auto High-Beam Controller is a new feature that strives to maximize visibility at night by automatically actuating the high-beam lamps when ambient lighting conditions and traffic conditions permit. A forward-looking camera senses the headlamps of oncoming vehicles and the taillamps of leading vehicles, upon which the system automatically switches to the low-beam lamps. Auto High-Beam is offered as an option on the Ford Taurus in North America and on the Ford Mondeo, S-MAX, Galaxy and new Focus in Europe. It is standard on the Lincoln MKS and

Related Links

Vehicle Websites:
- Ford Focus
- Ford Fusion
- Ford Taurus
- Ford Escape
- Ford Escape Hybrid
- Ford Explorer
- Ford Flex
- Ford Expedition
- Ford E-Series
- Ford F-150
- Ford SuperDuty
- Lincoln MKZ
- Lincoln MKS
- Lincoln MKX
- Lincoln MKT
- Lincoln Navigator

Ford.co.uk:
- Ford Focus (Europe)
- Ford Mondeo
- Ford S-MAX
- Ford Galaxy

Ford Websites:
- MyKey™

MKT.

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MyKey™

Ford's MyKey™ system is an innovative technology designed to help parents encourage their teenagers to drive more safely. MyKey allows owners to program a key that can limit the vehicle's top speed to 80 mph and the audio volume to 44 percent of total volume. MyKey encourages safety-belt usage by enabling Ford's Beltminder™ to chime every minute indefinitely until the safety belt is buckled, rather than ceasing after five minutes, and also by muting the audio system until the belt is buckled. In addition, MyKey provides an earlier low-fuel warning (at 75 miles to empty rather than 50); sounds speed-alert chimes at 45, 55 or 65 mph; and will not allow manual override of other safety systems. For the 2011 model year, MyKey is available on nearly all retail vehicles – including the Ford F-150, SuperDuty, Taurus, Fusion, Mustang, Focus, Explorer, Flex, Escape and Expedition, as well as all Lincolns (the Navigator, MKS, MKX, MKZ and MKT).

Late in 2011 on the Ford Taurus and Explorer, Ford will upgrade MyKey with a world-first technology that allows parents to block explicit radio programming while their teens are driving. The upgraded technology also will allow parents to limit a vehicle's top speed at any of four different settings – 65, 70, 75 or 80 mph. These upgrades will quickly be offered across a variety of Ford and Lincoln models.

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AdvanceTrac® with Roll Stability Control®

Finally, Ford's industry-leading innovation known as AdvanceTrac® with Roll Stability Control® (RSC) continues to give drivers more driving confidence. RSC actively measures and helps control both yaw and roll movements. It uses two gyroscopic sensors to detect when a driver corners too fast or swerves sharply to avoid an obstacle. It then applies pressure to select brake(s) to help the driver maintain control and thus reduce the risk of a rollover event.

Roll Stability Control is standard equipment on the Ford Flex, Explorer, Expedition, Edge, Escape and F-150, as well as E-Series wagons and vans and the 2011 SuperDuty with single rear-wheel configurations. It is also standard equipment on the Lincoln Navigator, MKX and MKT. Ford developed a next-generation regenerative braking system for the 2009 and 2010 Escape Hybrid that is compatible with RSC. For the 2011 model year, 84 percent of all Ford vehicles offered either RSC or our standard electronic stability control system; all 2012 models will offer standard stability control systems.

Percent of North American Nameplates with Standard Offering of Electronic Stability Control or Roll Stability Control

	Percent
2012 Model Year	100%
2011 Model Year	84%
2010 Model Year	77%
2009 Model Year	62%
2008 Model Year	40%
2007 Model Year	27%

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Driver-Assist Technologies

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SYNC®


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Rearview Camera


Adaptive Cruise Control


Collision Warning with Brake Support


Blind Spot Information System


Cross Traffic Alert


Lane Keeping Alert


Lane Keeping Aid


Driver Alert

Traffic Sign Recognition


Active Park Assist

Ford vehicles feature an array of new driver-assist and convenience technologies.

SYNC®

Ford's popular and award-winning SYNC® system, powered by Microsoft®, is one such technology. Numerous studies show that hands-free multimedia devices offer benefits compared to hand-held devices. The benefits are seen in driving performance as well as object and event detection. Ford SYNC provides a way for drivers to use cell phones and MP3 players through voice commands alone, while keeping their eyes on the road and their hands on the wheel. Ford SYNC is now available with "Traffic, Directions and Information," a subscription service that allows drivers to access traffic reports and turn-by-turn directions, all via voice command. Ford SYNC was launched in late 2007 and is now available on nearly every vehicle from Ford and Lincoln in North America. Please see the case study for more on how SYNC helps to further reduce driver distraction.

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MyFord Touch™

In 2010, Ford introduced the new MyFord Touch™ driver connect technology – an all-new user interface that delivers a smarter and simpler way to connect drivers with in-car technologies and their digital lives. MyFord Touch, along with MyLincoln Touch™, was developed after a thorough review of current interior design – and its limitations – considering the abundance of new and emerging technologies. After studying vehicle communications trends and the ways drivers were using technology inside their vehicles, it was evident that the current way of interacting with car and truck technology was rapidly becoming obsolete.

The MyFord Touch user interface replaces many of the traditional vehicle buttons, knobs and gauges, and is designed to increase focus on driving while providing access to information, entertainment and connectivity features. The system includes a next-generation, state-of-the-art voice recognition system with nearly 10,000 available commands, and clear, large, color LCD displays, along with two five-way controllers on the steering wheel. These features encourage drivers to maximize the time their eyes are on the road and their hands are on the wheel. And although the user interface is all new, it should not feel unfamiliar, as it is based on the fundamentals of Ford's award-winning navigation system, as well as the SYNC user interface.

MyFord Touch launched on the 2011 Ford Edge and goes global with availability on the 2012 Focus. MyLincoln Touch will be standard equipment on new Lincolns beginning with the 2011 MKX.

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Related Links

Vehicle Websites:
- Ford Focus
- Ford Fusion
- Ford Taurus
- Ford Edge
- Ford Escape
- Ford Explorer
- Ford Flex
- Lincoln MKZ
- Lincoln MKS
- Lincoln MKX
- Lincoln MKT

Ford.co.uk:
- Ford Focus (Europe)
- Ford Mondeo
- Ford S-MAX
- Ford Galaxy
- Ford C-MAX

Ford Websites:
- SYNC®
- MyFord Touch™

Rearview Camera

Ford's Rearview Camera can enhance rear visibility, as well as assist with actions that require reverse maneuverability such as parallel parking and hitching trailers. The system uses an exterior camera embedded in the rear of the vehicle that sends images to a video display in the rearview mirror or the navigation system screen. These images can help improve visibility directly behind the vehicle when the vehicle is in reverse. The camera image is overlaid with lines that mark the width of the vehicle, which makes it easier to gauge distance and navigate in reverse. The system also increases visibility in low light by using a low-light-capable camera and high-intensity reverse taillights. The Rearview Camera is offered on most of Ford's vehicles. The National Highway Traffic Safety Administration recently published a Notice of Proposed Rulemaking mandating rearview cameras and displays meeting specified criteria by September 1, 2014, on all vehicles with less than a 10,000 lb. gross vehicle weight rating.

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Adaptive Cruise Control

Adaptive Cruise Control (ACC) helps drivers maintain a pre-set distance from the vehicle in front of them. It is one of the innovations now available on the 2011 Ford Taurus, Explorer and Edge; the Lincoln MKS, MKX and MKT; and the Ford Mondeo, S-MAX, Galaxy and new Focus in Europe. While primarily a comfort and convenience feature, Adaptive Cruise Control also contributes to more controlled driving when traffic flow is uneven. The ACC module is mounted at the front of the vehicle and uses radar to measure the gap and closing speed to the vehicle ahead. The system automatically adjusts the speed of the car to help maintain a pre-set distance from the vehicle in front. Ford was the first manufacturer to launch radar-based ACC several years ago.

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Collision Warning with Brake Support

In driving situations that present a high risk of collision with the vehicle in front, Ford's Collision Warning with Brake Support technology activates a visual and audible warning. In addition, the brake system is pre-tensioned and the "servo boost" assistance system is modulated to provide faster brake performance, if required by the driver. Range and speed information is sensed with long-range radar mounted on the front of the vehicle. Collision Warning with Brake Support can be activated or deactivated as the driver wishes, and it may alert the driver if the sensor becomes blocked by snow, ice or mist. This technology is available in the U.S. on the Ford Taurus, Edge and Explorer and the Lincoln MKS, MKX and MKT, and in Europe on the Ford Mondeo, S-MAX, Galaxy and Focus.

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Blind Spot Information System

Blind Spot Information System (BLIS) is designed to help inform the driver when a vehicle is detected in the "blind spot zone." The system uses two radar sensor modules that are mounted behind the left- and right-hand side of the rear bumper. BLIS is active above 10 km/h (about 6 mph) and is even capable of detecting motorcycles in some cases.

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Cross Traffic Alert

Cross Traffic Alert is designed to assist the driver when other parked vehicles may obscure the driver's view of traffic while backing out of a parking space. To assist the driver while slowly backing up, the BLIS sensors in the corners of the rear bumper can detect approaching vehicles. A warning chime will sound, an amber light will display in the outside mirror on the appropriate side of the vehicle and a text message will inform the driver of the situation.

In North America, both BLIS and Cross Traffic Alert are available on the Ford Fusion, Taurus, Edge and Explorer, as well as on the Lincoln MKZ, MKX and MKT. In Europe, BLIS is available on the Ford Mondeo, S-MAX and Galaxy as well as the new Ford Focus and C-MAX.

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Lane Keeping Alert

Lane Keeping Alert (previously called Lane Departure Warning) is designed to warn the driver, via a vibration in the steering wheel, when the front-view camera detects that an unintentional lane departure is likely to happen. The front-view camera continuously monitors the road ahead and evaluates where the car is in relation to the lane markings. If the driver uses the turn indicator, or the driving situation suggests an intended lane change, the warning is suppressed. Lane Keeping Alert is deactivated at speeds below 38 mph, so as not to interfere in urban stop-and-go conditions. The system can be activated and deactivated via a switch on the turn indicator stalk.

Lane Keeping Alert is available in Europe on the Ford Mondeo, S-MAX and Galaxy, as well as on the new Focus.

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Lane Keeping Aid

Lane Keeping Aid goes a step further. In addition to vibrating the steering wheel, it undertakes a temporary steering intervention to steer the vehicle back into the lane, when the front-view camera detects that an unintentional lane departure is likely to happen. Like Lane Keeping Alert, Lane Keeping Aid can be activated and deactivated via a switch on the turn indicator stalk and is automatically deactivated below 38 mph. Lane Keeping Aid was introduced in Europe on the new Ford Focus, and its availability will be expanded to other vehicles.

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Driver Alert

Driver Alert computes a “vigilance level” for the driver and displays it in the cluster upon request. The vigilance judgment is based on statistical analysis of lane information collected by the forward-looking camera and the vehicle’s yaw behavior. If the driver vigilance level falls below a certain level (i.e., if the driver gets tired), a warning is given. Driver Alert is available in Europe on the Ford Focus, Mondeo, S-MAX and Galaxy.

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Traffic Sign Recognition

Our new Traffic Sign Recognition technology uses a forward-looking camera to recognize speed limit signs next to the road; it then shows them in the information display. Traffic Sign Recognition is available on the Ford Focus in Europe.

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Active Park Assist

Finally, Active Park Assist, a semi-automatic parallel parking system, is another new driver-assist technology. After activating the system by pressing the “parking” button, sensors detect a parking space by scanning. As the car passes the space, sensors measure the length. The system then defines the optimum point from which the vehicle can start parking and gives audible and visual warnings advising the driver to stop. From there the driver has to engage reverse and operate the accelerator and brakes, but the car controls the steering angle. When in the space, the vehicle continues to control the steering, with the driver engaging forward and reverse gears as necessary until the system gives a finish signal. Active Park Assist is available on the Ford Focus and C-MAX in Europe and the Ford Flex, Escape, Focus, Taurus and Explorer and the Lincoln MKT in the U.S.

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Occupant Protection Technologies

Many factors influence a vehicle's crash performance, including the design of the vehicle's structure to absorb impact energy and the use of passive safety equipment such as air bags and safety belts. To help protect drivers and passengers in the event of a crash, a variety of Ford technologies have been designed to enhance the performance of safety belts and air bags and provide additional occupant protection in side crashes and rollovers.

The next-generation Ford Focus, which went on sale in North America and Europe in early 2011, features a new standard **driver-side air bag**. The new air bag, which will be used on other future Ford models as well, is designed to further reduce loading on the driver's chest. It uses a curved tether, which resembles a smile when inflated. The new air bag was designed to address new, more stringent federal regulations and five-star New Car Assessment Program (NCAP) requirements, which were directly influenced, in part, by Ford's biomechanical research. The new NCAP uses a mathematical equation published by Ford researchers to estimate the probability of crash-related chest injuries, depending on age and chest deflection. Accordingly, lower chest deflections will be rewarded in the revised star-rating system.

Older drivers, in particular, can benefit from the air bag's redesign, because they are more susceptible to rib injuries due to weaker bones. According to Ford safety researchers, the typical 65-year-old has one-quarter the ability of a 16-year-old to withstand crash-related forces on their chest during a forward collision.

Safety belts remain the most important vehicle safety technology available. For the 2011 model year, Ford brought to market the world's first automotive inflatable safety belts – a brand-new technology that won Popular Science magazine's "Best of What's New" award in late 2010. These belts combine the attributes of traditional safety belt and air bag technologies to help reduce head, neck and chest injuries for rear-seat passengers. Ford introduced the inflatable rear safety belts on the new 2011 Ford Explorer in North America.

The inflatable belts are designed to deploy over a vehicle occupant's torso and shoulder in less than 40 milliseconds in the event of a crash. Each belt's tubular air bag inflates with cold compressed gas. The inflatable belt distributes crash force energy across five times more of the occupant's torso than a traditional belt, helping to further reduce the risk of injury.

In everyday use, the inflatable belts operate like conventional safety belts and are safe and compatible with infant and child safety car and booster seats. In Ford's research, more than 90 percent of those who tested the inflatable safety belts found them to be similar to or more comfortable than a conventional belt, because they feel padded and softer. Ford will monitor real-world effectiveness and customer acceptance of this new technology as it begins the phase-in into the Ford fleet.

Ford Escape 2010 with Safety Canopy

Ford was the first in the industry to offer rollover-activated side-curtain air bags, known as the **Safety Canopy®**, beginning with the Ford Explorer and Mercury Mountaineer in 2002. The Safety Canopy with rollover sensors, combined with safety belts, helps to further reduce the risk of injury to vehicle occupants during side-impact collisions and rollover crashes. For the 2011 model year, the Safety Canopy is available on the Ford Explorer, Expedition, Edge, Flex, Escape, Taurus, F-150 and Super Duty, and the Lincoln MKX, MKT, Navigator and MKS.

Ford has recently implemented a **new strategy** for deploying side-curtain air bags in frontal impacts – specifically in the 40 mph/40 percent offset deformable barrier crash test conducted by

Related Links

Vehicle Websites:

- Ford Fiesta
- Ford Focus
- Ford Fusion
- Ford Fusion Hybrid
- Ford Taurus
- Ford Edge
- Ford Escape
- Ford Explorer
- Ford Flex
- Ford Expedition
- Ford F-150
- Ford SuperDuty
- Lincoln MKZ Hybrid
- Lincoln MKS
- Lincoln MKX
- Lincoln MKT
- Lincoln Navigator

Ford.co.uk:

- Ford Mondeo
- Ford S-MAX
- Ford Galaxy

External Websites:

- National Highway Traffic Safety Administration
- Insurance Institute for Highway Safety

the Insurance Institute for Highway Safety. This strategy helps to reduce the risk of occupant contact with the roof rail, A-pillar and B-pillar and reduces containment concerns during frontal offset and angular impacts.

Ford is also advancing the state of the art in crash sensing. Specifically, we are phasing in new **pressure-based sensors on new side air bag systems** to deploy side air bags and curtains earlier in a crash as compared to state-of-the-art acceleration-based sensors. In a side collision, the pressure sensors are designed to detect a change in air pressure inside the front doors as the doors deform and send an electrical signal to deploy the side air bag system. Pressure-based sensors have increased accuracy to measure the severity of a side impact crash than acceleration-based sensors, which makes them better able to differentiate between a life-threatening, air-bag-deployable crash and relatively harmless daily abuse that should not require air bag protection. The system also enhances performance in new federal side-impact tests.

In Europe, the Ford Mondeo, S-MAX and Galaxy are equipped with an **Inflatable Knee Bolster**, designed to help reduce the driver's forward motion in the event of a severe frontal crash and reduce the risk of injury to lower limbs. This technology is also available in the U.S. on the 2011 Fusion Hybrid and MKZ Hybrid and the 2011 Ford Fiesta.

Ford vehicles are engineered with advanced structures designed to direct crash energy around the passenger compartment. For example, Ford's Side Protection And Cabin Enhancement architecture – known as **SPACE™ Architecture** – utilizes crash energy management techniques to help channel impact forces around and away from the passenger cabin in side collisions. The SPACE system integrates a high-strength steel structure in the floor that runs the width of the vehicle, as well as reinforcements along the rocker panels to help protect passengers in side-impact incidents. In addition, many new Ford vehicles are built with the company's **Trinity Front Crash Body Architecture**. This energy-absorbing body structure is optimized for strength and stiffness, and it's designed to absorb and redirect crash forces away from the passenger compartment.

As smaller and more fuel-efficient vehicles become more popular, **the safety of smaller cars** is sometimes raised as a concern. Ford continues to make small cars even safer while building larger vehicles that are more crash compatible with smaller vehicles. The 2011 Ford Fiesta, for example, was the first mini-car to earn a 2010 Top Safety Pick from the Insurance Institute for Highway Safety since the IIHS's introduction of the new roof-strength test. The Fiesta's extensive use of high-strength steels, our Trinity front crash structure, SPACE Architecture and advanced air bag technologies (including a segment-exclusive driver's knee air bag) helped the car perform well in IIHS testing. In our larger vehicles, we've already lowered the front bumper structures on most of our crossovers, SUVs and pickups to help them better match up with small vehicle crash structures.

Finally, Ford is using more **advanced and ultra-high-strength steels** than ever as part of our continuing effort to enhance the safety and fuel efficiency of our vehicles. Increased use of these types of steels helps us design vehicle structures with enhanced crash energy management, while balancing overall vehicle weight – even as we add more features, equipment and safety devices.

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Post-Crash/Injury Mitigation Technologies

One method of assisting emergency responders to reach the scene of a vehicle crash quickly is through in-vehicle emergency call systems, also called post-crash notification. These systems enable a driver to summon assistance in an urgent situation.

In the U.S., Ford **SYNC®** is an award-winning, in-car connectivity system that was introduced on certain 2007 model year vehicles. Beginning with the 2009 model year, SYNC-equipped vehicles come with an occupant communications capability called **SYNC 911 Assist**. In the event of a severe crash, the ability to directly contact the local 911 emergency operator could be critical, for both the vehicle occupants and first responders. While any cell phone alone could be used in an emergency situation, SYNC can assist in placing a call to a local 911 emergency operator – when a phone is properly paired, turned on and connected to SYNC and where the system and cell phone remain powered and undamaged – should a crash with an air bag deployment or fuel shutoff switch activation occur. The key advantage of SYNC 911 Assist is speed, as calls are placed directly to local 911 operators and do not have to be routed through a call center (as in competitors' versions), which can delay the time it takes to get help on the way. SYNC 911 Assist gives the occupants a choice as to whether or not to make the emergency call, and places the call if the occupant does not respond after a short time.

This voice-activated feature is available to customers with 2008 and beyond model year SYNC-equipped vehicles through a dealer-installed software update. Ford recently announced that we will offer a system similar to SYNC 911 Assist in Ford's European product range beginning in 2012. We are working with the various stakeholders in Europe to ensure that this type of solution is supportive of the eCall initiative, a pan-European, in-vehicle emergency call system.

The **SOS-Post Crash Alert System**, which is standard equipment on most Ford, Lincoln and Mercury vehicles, is another advance in post-crash safety technology. The SOS-Post Crash Alert System automatically activates the horn and emergency flashers in the event of an air bag deployment or safety belt pre-tensioner activation. The second-generation system – which was added to the 2011 Ford F-150, SuperDuty, Explorer and Edge and the Lincoln MKX – also is designed to automatically unlock vehicle doors subsequent to an air bag deployment or safety belt pre-tensioner activation, to aid in rescue. The system is designed to alert passersby and emergency services to the vehicle's location.

Related Links

Vehicle Websites:

- Ford Edge
- Ford Explorer
- Ford F-150
- Ford SuperDuty
- Lincoln MKX

Ford Websites:

- SYNC®

External Websites:

- European Automobile Manufacturers' Association

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Research

Ford is undertaking a number of research efforts to assess and verify the effectiveness of new active safety technologies, such as those using forward-looking radar and vision sensors. (Research regarding vehicle-to-vehicle and vehicle-to-infrastructure communication technologies is discussed in the "intelligent vehicles" case study.)

In January 2010, a consortium of 29 partners – led by the Ford European Research Center in Aachen, Germany – joined forces in the Accident Avoidance by Active Intervention of Intelligent Vehicles (interactIVe) European research project. The consortium seeks to support the development and implementation of active safety systems, and consists of seven automotive manufacturers, six suppliers, 14 research institutes and three other stakeholders. The European Commission will cover more than half of the €30 million budget.

During the planned 42-month duration of interactIVe, the partners will test the performance of implemented safety systems through active intervention, including autonomous braking and steering in critical situations, with the aim of avoiding collisions or at least mitigating impact severity in accidents.

In 2008, Ford launched a major European research project (called EuroFOT) to deliver a large-scale field operational test of the real-world impact of active safety systems. Under the EU's Seventh Framework Program (FP7) for research and technological development, this project joins together 28 partners – including vehicle manufacturers, suppliers, universities and research centers – and will run until August 2011. More than 1,500 cars and trucks will be equipped with eight new active safety technologies, along with advanced data-collection capabilities. This will allow a thorough evaluation of the new technologies for safety, efficiency and driver comfort, in real-world scenarios and with ordinary drivers. The project has a total budget of €22 million and is led by the Ford research center in Aachen, Germany. It includes 100 Ford vehicles.

In another area of research, Ford announced in March 2011 that we launched research aimed to create one of the world's first digital human body models of a child. The model could someday serve as a digital "dummy" for computer crash testing. A child's body is very different from an adult's, and building a digital human body model of a child will help Ford design future systems that offer better protection for our young passengers.

Digital models are painstakingly detailed; Ford's current adult digital human body model took more than a decade to create. It was also one of the first full human body digital models ever created. It contains digital representations of the human body, the skeleton and the internal organs in great detail. In addition to the geometrical information, the Ford adult human body model includes accurate mechanical properties, so that in "virtual" or simulated crashes it deforms like a real human would in a real crash. The model has been extensively validated by comparing its response in simulated tests to data from publicly available data in the scientific literature.

Such models are used in research, not vehicle development. They do not take the place of crash dummies, which measure the effects of forces on the body, but instead are used to better understand injury mechanisms, so as to further improve restraint system effectiveness.

For the new digital human body model of a child, Ford researchers have contracted with Tianjin University of Science and Technology and Tianjin Children's Hospital to obtain child geometry and basic body information from sources like MRIs and CT scans provided by volunteers. Most other information for the project will be obtained from public domain literature.

Finally, a particularly creative research technique Ford has been using involves driving cars with Collision Warning with Brake Support into large "balloons" nearly the size and shape of real cars. The purpose of these tests is to assess the accuracy of the radar and the timing of the warning signals and braking pre-charge. The balloons play the role of a "target" vehicle, allowing Ford engineers to assess the radar and braking features without endangering test drivers or damaging real cars. The balloons offer enough "give" to allow impact without injury. Ford uses about a dozen balloon cars in different sizes, each made from tarp-like material and weighing more than 40 pounds.

Related Links

External Websites:
- interactIVe
- EuroFOT

Collaborative Efforts

ON THIS PAGE

Related Links

External Websites:
- National Fire Protection Association
- Society of Automotive Engineers
- U.S. Council for Automotive Research

Ford Motor Company continues to be involved with a number of partners to enhance the safety of the driving experience and develop future technologies.

Crash Avoidance Metrics Partnership

In 1995, Ford and General Motors launched the Crash Avoidance Metrics Partnership (CAMP) to conduct pre-competitive active safety research with other OEMs, suppliers and the U.S. government. Within CAMP, the Vehicle Safety Communications Two (VSC-2) Consortium, which included Ford, GM, Toyota, Daimler and Honda, worked with the U.S. Department of Transportation on projects to develop safety applications that utilize vehicle communications. Their efforts focused on developing a communication system whereby vehicles can “talk” to each other and to the roadway. This would be analogous to a wireless internet system or a cellular telephone for cars. CAMP VSC-2 successfully completed projects that demonstrated the basic feasibility of this technology and evaluated several applications.

CAMP has now formed a VSC-3 Consortium with Ford, GM, Honda, Hyundai-Kia, Mercedes, Nissan, Toyota and VW-Audi to continue work on vehicle-to-vehicle communications for safety applications. This consortium is being funded by the U.S. Department of Transportation to complete all of the pre-competitive work necessary for a deployment decision for vehicle safety communications in 2013. In addition, the consortium is being funded to conduct driver clinics of vehicle-to-vehicle (V2V) safety systems around the U.S. in 2011 and is preparing to participate in a model deployment of V2V systems in 2012. (See the case study for more on Ford’s work regarding “intelligent vehicle” systems.)

CAMP completed two projects with the U.S. National Highway Traffic Safety Administration in 2010. The Crash Imminent Braking Project (involving Ford, GM, Mercedes, Continental and Delphi) developed minimum performance requirements and objective test procedures for systems that automatically apply the brakes to avoid crashes or mitigate the severity of a crash. The Advanced Restraint Systems Project (involving Ford, GM and Mercedes) developed and evaluated restraint systems that utilize pre-crash and occupant sensing information. In 2011, a CAMP consortium will work with NHTSA on a project to develop performance requirements and test procedures for systems to avoid or mitigate vehicle crashes with pedestrians.

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First Responder Training

For decades, Ford has supplied vehicles to fire departments so they can train on the latest technologies and materials using their increasingly advanced extrication tools. The increased use of stronger steels (e.g., boron steel, tubular hydroform steel and high-strength steel) in motor vehicles, as well as the introduction of new technologies such as advanced safety features and hybrid powertrains, have raised some questions by first responders regarding gaining access to vehicle occupants who have been involved in a severe accident. As a result, Ford has provided more than 2,000 training vehicles to first responders since 1990.

In addition, following the introduction of our first hybrid model (the 2006 Ford Escape Hybrid), Ford began publishing emergency responder hybrid vehicle guides with instructions on how to quickly and safely disable the vehicle’s electrical and battery systems before attempting to rescue occupants. In June 2009, Ford’s training efforts included working with the Regional Alliance for Firefighter Training, which is made up of nearly 35 fire departments in Michigan. For this event, we provided 10 hybrid vehicles to facilitate the first-known emergency responder training event specifically focused on hybrid vehicles.

In 2010, Ford provided more than 70 vehicles to first responders for training purposes, including 12 vehicles to the Dearborn (Michigan) Fire Department. These vehicles gave more than 100 firefighters the opportunity to train on advanced vehicles using their new extrication equipment,

commonly known as “the jaws of life,” which the city of Dearborn obtained with the aid of an “Assistance for Firefighters” federal grant program.

Ford also is working to take this training to the national level. In October 2010 we partnered with PennWell Publishing, the publisher of ***Fire Engineering*** magazine, to develop a three-part training video on advanced vehicle technologies and extrication techniques. This training video was released at the annual Fire Department Instructors Conference, held in Indianapolis, Indiana, in March 2011.

Ford is also working with the National Fire Protection Association (NFPA) to provide electric vehicle safety training to first responders. The NFPA’s training program, which was announced last year as part of a $4.4 million grant from the U.S. Department of Energy, will provide firefighters and first responders with information about how to safely handle emergency situations involving new technologies found in electric vehicles.

Ford’s efforts and training events have been well received by the first responder community, and should help their important efforts in the future.

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University Partnerships

Ford increasingly collaborates with university partners on a wide range of research projects, including research into advanced safety technologies. In recent years, we have fine-tuned the objectives of our grant-providing University Research Program (URP), moving away from exploratory, long-term research to highly collaborative projects focused on innovations with more near- and mid-term implementation potential.

In 2010, Ford awarded 13 new URP grants to 12 universities around the globe. Recipient schools include, for example, Wayne State University in Detroit, Michigan; Stanford University in Palo Alto, California; RWTH Aachen University in Aachen, Germany; and Tsinghua University in Beijing, China. These new Ford URP projects add to an active research portfolio that now comprises 30 studies in partnership with 26 universities globally.

In addition to the URP projects, Ford has major research alliances with the Massachusetts Institute of Technology (MIT), the University of Michigan and Northwestern University.

Safety is a central thrust in many of these collaborative university programs. The following are some examples of current projects:

- Projects within the Ford–MIT alliance are yielding progress in areas of vehicle autonomy and active safety, including computer vision, lane keeping, vehicle controls, obstacle detection and avoidance, and accurately assessing the driver’s interaction with the vehicle. One project aims to assess the role of active safety technologies, features and functions in reducing driving-related stresses and enhancing driver wellness.
- At Auburn University, Ford has an ongoing project to conduct “sensor fusion” – that is, to coordinate between Global Positioning System sensors and the motion sensors in a vehicle’s stability control systems, to predict when a driver is about to lose control. The ultimate goal is to use satellites to feed data to a vehicle’s electronic stability control system, allowing it to adjust and prevent a loss-of-control accident.
- At the University of Michigan, safety work includes a portfolio of projects on 360° sensing and developing more robust and capable active vehicle control and enhanced collision avoidance systems, utilizing both onboard sensors and offboard information sources.
- A project at the State University of New York’s Downstate Medical Center should yield an improved understanding of human tolerance to pelvis injury.
- Collaborative work is ongoing with Purdue University investigating enhanced vehicle dynamics and stability control.
- As part of its accident research projects in Germany, the UK and Australia, Ford works closely with internationally acknowledged safety experts from the Universities of Hannover, Loughborough, Dresden, Birmingham and Monash.

Collaborative university work catalyzes innovation at Ford by providing access to leading researchers at the cutting edge of vehicle dynamics and stability control, accident avoidance and driver-assist safety technology, to name just a few. Ford will continue to integrate these collaborative innovations, driving continuous improvement in real-world safety and sustainability for all Ford Motor Company products.

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Alcolock Blue Ribbon Panel

Reducing the incidence of impaired driving would go a long way toward improving road traffic safety. In the EU, 25–30 percent of all car accidents involve alcohol. In the U.S., approximately 40 percent of all traffic fatalities are alcohol-related (as reported by NHTSA).

The Automotive Coalition for Traffic Safety formed a Blue Ribbon Panel (BRP) in 2007 for the

development of advanced alcohol detection technology, often called “alcolocks.” The panel consists of vehicle manufacturers, including Ford, alcohol detection technology suppliers, Mothers Against Drunk Driving, the Insurance Institute for Highway Safety, government representatives and other experts.

The BRP and its research are being funded jointly by NHTSA and the Alliance of Automobile Manufacturers. The purpose of the research is to “...engage major automakers in cooperative research that advances the state of alcohol detection technology... to promote the standardization of the technology, its widespread deployment, and acceptance by the general public.”

Ford continues to participate in the work of the Blue Ribbon Panel through the Alliance. Phase I of the research has been completed, though some of the system targets were not achieved and remain to be addressed. Phase II has nonetheless begun, and will include demonstrating the technology in a test vehicle and with human subjects over the next two years.

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New Crash-Test Dummies

Crash-test dummies are essential research tools that aid in the development of passive safety technologies, and Ford Motor Company continues to develop, often in partnership with other parties, more advanced test dummies.

From 2005 through 2010, Ford partnered with the Children’s Hospital of Philadelphia (CHOP), the University of Virginia, Virginia Tech and the Takata Corporation in a multi-year project to develop a new abdominal insert and sensor for a crash-test dummy representing a six-year-old child.

A “family” of crash test dummies

CHOP studies have shown that, in vehicle crashes, significant abdominal injury in four- to eight-year-old children is second in frequency of occurrence only to head and facial injuries. Abdominal injuries may occur when children who are too young (i.e., the four- to eight-year-old range) utilize adult restraint systems without a booster seat. The abdominal insert and sensor will allow restraint engineers industry-wide to test the potential for abdominal injuries in children and ultimately improve the development of in-vehicle restraint systems for younger children.

In February 2008, the Society of Automotive Engineers established a task force to perform “round robin” testing of the new dummy component. More than 20 organizations from around the globe have signed up to participate. Tests will be performed by dummy manufacturers, other OEMs and NHTSA’s Vehicle Research and Test Center. Testing is scheduled to begin in the summer of 2011.

In another effort, Ford, GM and Chrysler have been working together under the auspices of the Occupant Safety Research Partnership (OSRP), a group within the U.S. Council for Automotive Research, to research, develop, test and evaluate advanced crash-test dummies and other pre-competitive safety systems. A number of years ago, the OSRP initiated development of WorldSID, a male side-impact dummy that is recognized as the most advanced crash-test dummy ever created. From 2006 through 2008, the OSRP worked with NHTSA to help them evaluate WorldSID for potential use in the federal government’s new side-impact crash-test standard. NHTSA concluded that the biofidelity of WorldSID is better than that of the dummy in the current side-impact regulation. WorldSID is the first side-impact dummy with the potential to be commonly used in side-impact regulations around the world.

To that end, since 2009, an informal working group under the UN’s Working Party on Passive Safety has been working to fully develop WorldSID dummies for use in government regulations globally. In 2010, OSRP developed a new test fixture to simulate the front end of a generic car or truck. Work is underway using that fixture to assess a new “dummy” leg, called FLEX-PLI, which has been proposed for inclusion in a new Global Technical Regulation for pedestrian testing.

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Data

The data relating to vehicle safety is included in the Society section of this report.

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Case Studies

IN THIS SECTION

Case Study: Driver Distraction

Over the past two decades, cellular phones have gone from clunky novelties to ubiquitous must-haves. The public has become accustomed to using cell phones everywhere – at home, on the street, in restaurants, at the office, while shopping and – of most interest to Ford's safety researchers – while driving. The ubiquity of cell phones has heightened concerns about driver distraction. We at Ford agree that this is an important safety issue, and we have taken steps to address it.

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Case Study: Intelligent Vehicles

In recent years, Ford has unveiled numerous safety and driver-assist technologies that rely on radars and cameras to warn the driver of an impending dangerous situation and even intervene if necessary. At the same time, we have been undertaking research – both on our own and in partnership with others – to take these technologies to the next level. This "next level" involves improving the performance of these systems such that they can be used in onboard vehicle-to-vehicle and even vehicle-to-infrastructure communications.

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Case Study: Driver Distraction

Over the past two decades, cellular phones have gone from clunky novelties to ubiquitous must-haves. Wireless subscriptions in the U.S. have grown from about 28 million in 1995 to about 280 million by 2010 – a tenfold increase. The public has become accustomed to using cell phones everywhere – at home, on the street, in restaurants, at the office, while shopping and – of most interest to Ford's safety researchers – while driving.

The ubiquity of cell phones – coupled with the proliferation of portable music players in vehicles – has heightened concerns about driver distraction. We at Ford agree that this is an important safety issue and we have taken steps to address it. We also believe that continued research is needed to better understand the complex interactions involved in this issue, and we are actively participating in that research.

In 2009 and again in 2010, the National Safety Council (NSC) called for a total ban on the use of cell phones, both handheld and hands-free, while driving. The NSC stated that cell phone use while driving is "...a very high-risk behavior with significant impact on crashes...." And indeed, some studies have concluded that there's no difference in driver behavior whether using handheld or hands-free phones. In many of those laboratory studies, participants in simulated driving situations were observed while being asked to engage in in-depth conversations on challenging or emotional subjects, such as the latest political scandal or a near-death experience. Such intense and lengthy discussions can indeed be distracting.

Naturalistic driving studies – in which study participants' driving performance, "eye glance behavior," driving environment and in-vehicle activities are observed and recorded over weeks or months in real-world situations – have revealed different results. For example, naturalistic studies completed by the University of Michigan's Transportation Research Institute reveal that, when immersed in real traffic conditions, drivers using cell phones by and large exhibit prudent driving behavior.

In addition, the landmark 100-Car Naturalistic Driving Study conducted by the Virginia Tech Transportation Institute (VTTI) found that almost 80 percent of all crashes and 65 percent of all near-crashes involved the driver looking away from the forward roadway just prior to the onset of the incident. In 2008, the study's authors summarized their findings in this way: "...it is a rare case that a crash occurs while the driver's eyes are on the forward roadway, regardless of any other 'cognitive demand' that they might be engaged in."

In 2009, the VTTI published a new naturalistic driving study based on commercial vehicle operator experience. This study suggested that there is a 23-fold increase in risk when commercial operators send text messages while driving, and that some behaviors like checking gauges and talking on the cell phone can have protective benefits.

Beyond the VTTI and University of Michigan studies, there exists a considerable body of published research that indicates the superiority of hands-free voice interfaces as compared to handheld or visual–manual interfaces for the same tasks of command or data entry. These studies show advantages in driver performance, eye glance behavior toward the roadway, and object and event detection when the driver can keep eyes on the road and hands on the wheel. It is also interesting to note that, despite the significant increase in cell phone use in recent years, crash rates have fallen over the same time period (specifically, in both the categories of "fatal crashes" and "police-reported crashes"). (See graph below.)

Related Links

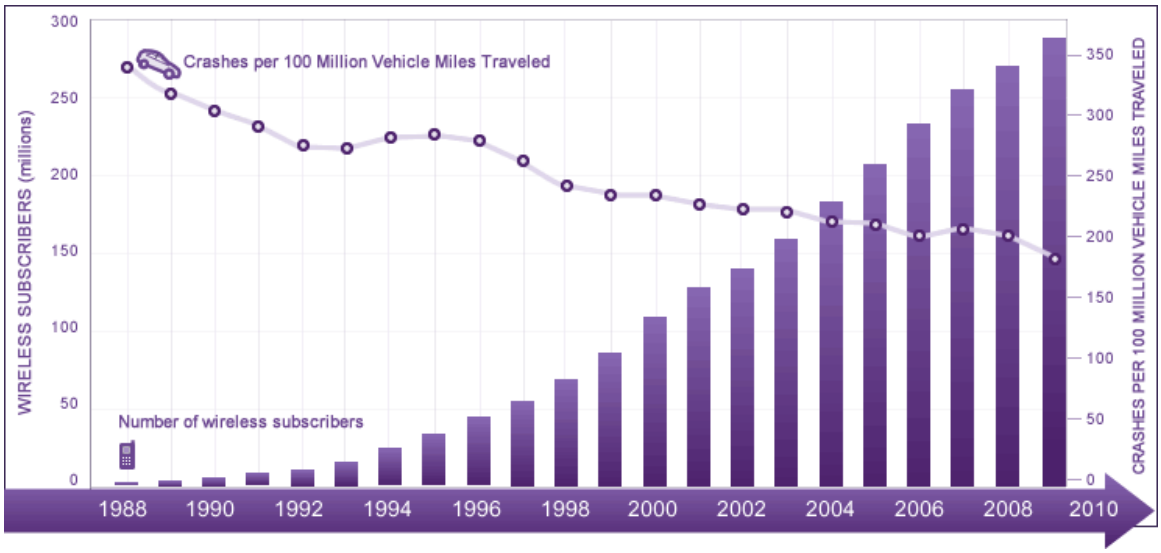
Ford Websites:

- SYNC®
- Ford Driving Skills for Life

External Websites:

- National Safety Council
- University of Michigan Transportation Research Institute
- Virginia Tech Transportation Institute
- U.S. Department of Transportation
- Alliance of Automobile Manufacturers
- Insurance Institute for Highway Safety

Police Reported Crash Rates and Wireless Subscription Growth 1988–2009



Recently, the VTTI 100-Car study has been criticized because only a handful of crashes were recorded, near-miss events were analyzed as surrogates for crashes without empirical justification, and there were only 107 primary drivers (and 132 occasional drivers). In 2010, the U.S. Department of Transportation (DOT) released several important reports that address these issues. One study of commercial truck and bus drivers was based on a data set collected and coded by DriveCam®, a vendor of onboard safety monitoring systems (OBMS). This data set was obtained from 13,306 vehicles and included 1,085 crashes, as well as many times that number of near-crashes, safety-critical events and baseline events. The results, highly consistent with the 100-Car findings, were that activities that take drivers' eyes off the road were associated with crash and near-crash involvement, but listening and talking tasks were not. A separate study conducted by VTTI on the relationship between near-misses and crashes revealed that (a) there was no evidence of different causal mechanisms between the two; (b) the near-misses underestimate risk ratios associated with crashes; but (c) the use of near-misses as surrogates for crashes greatly increases the likelihood of detecting statistically significant differences (when present) because of the much larger sample size of near-misses obtainable in naturalistic driving studies.

Another U.S. DOT-sponsored research study released in 2010 lends new insights into the case-crossover method which produced estimates of "over four-times greater risk of being in a crash" when using a cell phone. (This risk level has been cited by the IIHS, as discussed below.) Unlike the epidemiological studies, the 100-Car data set of video and engineering data has no uncertainty about exact crash times, cell phone use vs. non-use during the hazard interval leading up to the crash or near-crash, whether or not the driver was actually driving during the control day, and so forth. The researchers reported that the case-crossover odds ratios were lower, not higher, than the two-cohort odds ratios, strongly suggesting that the fourfold figure from the non-naturalistic epidemiological studies is inflated. Finally, it is noteworthy that the Strategic Highway Research Program II naturalistic driving study was launched in 2010. This study, which Ford supports with technical advice and information provided on Ford vehicle on-board information channels, will collect data for up to two years each on some 4,000 drivers.

In 2009, the IIHS evaluated insurance data to see if there were demonstrable benefits to bans on handheld cellphone use. As noted above, the IIHS had previously claimed that driving while using a cell phone causes a four-fold increase in risk, thus it was expected that insurance data would show a drop in claims after the enactment of handheld bans. However, the data showed no observable drop in claims as expected. In addition, the IIHS has published studies indicating that handheld phone bans in New York, Washington, DC, and Finland led to an initial decline in the banned behavior followed by a return to pre-ban levels of handheld phone use within roughly one year. The IIHS is now re-evaluating its position on distracted driving and cell phone use risks.

For several years now, Ford has been focused on the issue of driver distraction and has taken steps to enhance driving safety for those who use cell phones and other telematics devices while driving. Through its work with the Alliance of Automobile Manufacturers, for example, Ford helped lead the development of an industry-wide Driver Distraction Voluntary Agreement, and Ford designs its telematics systems to meet that agreement. In addition, Ford was the first automotive manufacturer to support the Schumer Bill, the first bill in Congress to propose a ban on handheld texting while driving. Ford also clarified its employee policies to explicitly ban the practice. Ford Driving Skills for Life, Ford's driver education program, includes modules on the importance of avoiding distracted driving. In 2010 the U.S. Secretary of Transportation convened a two-day Distracted Driving Summit to open a dialogue between the various stakeholders interested in this issue. Ford took part by sending representatives to attend the Summit as well as leading the development of the Alliance of Automobile Manufacturers' presentation for the Advanced Technologies Panel.

Ford SYNC®, our voice-activated in-car connectivity system, has been shown to enhance the ability of drivers to keep their eyes on the road and hands on the wheel while using cell phones and music players. Simulator research at Ford has shown that SYNC substantially reduces drivers' eyes-off-road time and improves lane-keeping, speed maintenance, and object and event detection response times, when compared to handheld devices for the same tasks. (See the above video for an example. It shows how long it takes a driver to find a song on an MP3 player manually vs. using SYNC's voice-activated system.) This study evaluated driver performance, not

driver behavior in the real world. However, these performance effects are consistent with the 100-Car VTTI Study, and strongly suggest that SYNC can reduce driver distraction in situations where a hand-held device would otherwise be used. In addition, these findings were recently confirmed by independent, on-road testing performed by the VTTI and published at the SAE Congress.

Ford customers reinforce the array of compelling research discussed above, as a large majority say they believe voice-controlled systems such as SYNC provide benefits and that they take other responsible measures while using electronics. According to a new survey of Ford owners of vehicles equipped with SYNC, 88 percent use the system's hands-free features, and 74 percent use the unique voice-control functions to use electronics while driving. A large majority of these customers also take other safety measures, such as increasing following distances while using electronics, and 77 percent say they don't use them in hectic driving conditions.

Ford recognizes that drivers will use cell phones and music players while driving, and that evolving technologies like text messaging are growing increasingly popular. Text messaging is a particular concern, as it requires significant time looking away from the roadway to operate. Ford's SYNC system addresses this concern as well: when a text message arrives, it does not display that message but instead reads it aloud through text-to-speech technology, and then provides a list of canned replies for the driver to select rather than key-in or compose manually. SYNC also locks out certain features (such as adding or editing a phone book contact) while driving.

We believe that further education is needed to help drivers understand the importance of focusing on the driving task and keeping their hands on the wheel and eyes on the road. Ford plans to continue to work with the government and other safety-related groups to discuss measures that can effectively reduce driver distraction and improve driving safety. We also plan to participate in continued research that can further our understanding of safe driving and help spread the message of safe driving.

Case Study: Intelligent Vehicles

In recent years, Ford has unveiled numerous safety and driver-assist technologies that rely on radars and cameras to warn the driver of an impending dangerous situation and even intervene if necessary. These technologies include, for example, Lane Keeping Alert, Collision Warning with Brake Support, Adaptive Cruise Control and other features discussed in our Accident Avoidance Technologies and Driver-Assist Technologies sections. At the same time, we have been undertaking research – both on our own and in partnership with others – to take these technologies to the next level.

This "next level" involves improving the performance of these systems such that they can be used in onboard vehicle-to-vehicle (V2V) and even vehicle-to-infrastructure (V2I) communications. In addition to the radar and cameras in use today, advanced Wi-Fi, cellular technologies (GSM/3G or 4G/LTE) and global positioning systems will provide the foundation to build an entirely new landscape of features for the purpose of safety, convenience and eco-mobility.

Ford is rapidly expanding its commitment to "intelligent vehicles" that can wirelessly talk to each other, warning each other of potential dangers to enhance safety and flag impending traffic congestion for more efficient driving. Such systems could potentially help in 81 percent of all police-reported vehicle-to-vehicle crashes involving unimpaired drivers, according to a National Highway Traffic Safety Administration (NHTSA) report. In 2011 we are doubling our investment in intelligent vehicles, forming a new 20-member task force of scientists and engineers to explore the technology's broader possibilities and becoming the first automaker to build prototype vehicles for demonstrations across the U.S.

Ford's vehicle communications technology will allow cars to talk wirelessly with one another using advanced Wi-Fi signals, or dedicated short-range communications, on a secured channel allocated by the Federal Communications Commission. The Wi-Fi-based radio system allows 360 degrees of detection and can "look" around corners for potentially dangerous situations, such as when a driver's vision is obstructed.

Intelligent vehicles could warn drivers if there is a risk of collision when changing lanes, approaching a stationary or parked vehicle, or if another driver loses control. Drivers also could be alerted if their vehicle is on a path to collide with another vehicle at an intersection, when a vehicle ahead stops or slows suddenly, or when a traffic pattern changes on a busy highway. If vehicles approaching from opposite directions were communicating with each other, they could warn the drivers of oncoming vehicles, potentially avoiding head-on crashes.

By reducing crashes, intelligent vehicles could also ease traffic delays, which would save drivers both time and fuel costs. Congestion also could be avoided through a network of intelligent vehicles and infrastructure that processes traffic and road information. A traffic management center would send this information to intelligent vehicles, which could then suggest less-congested routes to drivers.

Ford has initiated a series of research and advanced projects to begin the rollout of intelligent vehicle technologies into our product lineup. Much of our work builds on the research conducted by the Crash Avoidance Metrics Partnership (CAMP), discussed in the Collaborative Efforts section.

In Europe, the "Safe Intelligent Mobility – Test Field Germany" (known as "sim^{TD}" for short) is investigating V2V and V2I communication under everyday conditions in a large-scale field operational test. In sim^{TD}, 400 vehicles are outfitted with V2V and V2I communications systems, and roadside units are set up in select locations around the test area. Both are also linked up to traffic control centers. During the test, participating drivers may, for example, receive information

Related Links

External Websites:

- National Highway Traffic Safety Administration

about a traffic jam or road accident, so they can choose an alternate route. One hundred drivers are actively participating and collecting data by completing specific driving tasks, while 300 drivers are passively taking part by driving where they would normally go. Ford is providing test vehicles for the project, as well as leading the development of the Electronic Emergency Brake Light system, which warns the driver of a heavily braking vehicle ahead.

The sim^{TD} project will run through 2012 around Frankfurt, Germany. It is a joint effort with other OEMs, suppliers, telecommunication providers and research institutes, as well as public authorities. It receives funding from the German government.

Ford is also contributing to the European harmonization and standardization of wireless communication systems and applications within the framework of the DRIVE C2X project, which is co-funded by the European Commission. DRIVE C2X is the acronym for “DRIVing implementation and Evaluation of C2X communication technology in Europe.” (C2X stands for “car-to-infrastructure,” and means the same as V2I.) This project kicked off in January 2011 and brings together more than 40 stakeholders, such as OEMs, suppliers, universities and public authorities from all over Europe. Within the framework of DRIVE C2X, field operational tests in a real-world environment will be conducted in seven test sites in Europe.

Both sim^{TD} and DRIVE C2X are also targeted to pave the way for full deployment of V2V and V2I systems in Europe and provide Ford with relevant data needed as a basis for the development of next-generation safety and efficiency features.

In the U.S., NHTSA will decide in 2013 whether to initiate a rulemaking process for V2V technologies that could require these systems in new vehicles starting in some future model year. As seen in the examples above, Ford’s goal is not to just wait for governmental action in this area, but to accelerate the vehicle connectivity landscape to be a leader in smart, safety and eco-friendly customer solutions.

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Sustaining Ford

2010 HIGHLIGHTS...

- Won "Business Turnaround of the Year" from American Business Awards
- Full-year 2010 net income highest in more than a decade
- Adding 7,000 new hourly and salaried jobs in the U.S. between 2011 and 2012
- Exploring how automobiles can provide economic opportunities for rural communities in India

Building upon our 2009 momentum, Ford's financial health improved dramatically in 2010 after several challenging years. Our full-year 2010 net income was our highest in more than a decade, as strong products and new investments fueled improvements in all of our global operations. And, we achieved positive Automotive gross cash net of debt earlier than we anticipated.

Our 2010 financial results exceeded our expectations, accelerating our transition from a company working to fix the very fundamentals of our business to a company focused on delivering profitable growth for all. We have emerged from one of our darkest periods and today are continuing to invest in an unprecedented volume of new products, cutting-edge technologies and manufacturing growth across all of our markets.

We have been able to gain market share and make tremendous financial progress by steadfastly sticking to our "ONE Ford" plan. Our vision is one of profitability for all. In other words, when we have a good year, so do our suppliers, our dealers, our shareholders, our employees and our communities.

By staying focused, we have been able to deliver to our customers a full range of vehicles with outstanding fuel economy and exciting new technology at affordable prices. Our incoming vehicle models, for example, are getting better fuel efficiency than their outgoing model counterparts – for each and every vehicle line. At the same time, adhering to the ONE Ford plan has allowed us to advance our sustainability strategy – and simultaneously propel the Company forward.

At Ford, sustainability is at the heart of our business. We have thoroughly linked our Company's economic health to the environmental health of our planet and to the broader social health of the communities in which we operate. Our sustainability strategy is woven through our overall ONE Ford business strategy.

Our sustainability efforts in the early to mid 2000s – both internally and in our work with external stakeholders – set the stage for our Company to respond quickly with new products when skyrocketing fuel prices changed markets virtually overnight. Today, we continue to track and address emerging strategic sustainability issues, from global water availability to the sourcing of conflict minerals, that impact the development and manufacture of new products.

Our sustainability strategy calls for the introduction of a range of global environmental technologies that will offer consumers a choice of more fuel-efficient vehicles that emit fewer greenhouse gases – without compromising on safety, quality or performance. We aim to make our vehicles greener, safer and smarter.

As we develop new vehicles and technologies, we're proud to be addressing a number of critical, broader issues that impact us globally, including the availability and affordability of fuel, the electrification of vehicles, the environmental impacts of CO_2 emissions, the mobility challenges of emerging markets, and human rights within our supply chain.

Such issues pose tremendous challenges for automakers. But they also promise significant opportunities for Ford as we work toward innovative solutions.

For example, our future competitiveness in emerging markets rests in large part on our ability to meet the challenges of rapidly growing urban locations, where more automobiles on the road

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Michael Muyot

President and Founder, CRD Analytics

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Gary Johnson

Vice President, Manufacturing – Asia Pacific and Africa, Ford Motor Company

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- Delivering New Products
- Working as One Team

equals more congestion. At the same time, we are focusing on innovative solutions for remote regions, where access to vehicles has been extremely limited.

At Ford, we have an opportunity to not only focus on our own balance sheet, but to make meaningful contributions toward economic growth, energy independence and environmental sustainability for all of our stakeholders.

ONE Ford

Our ONE Ford plan, which was developed to create a leaner, more efficient global enterprise, is anchored by four key priorities:

- Aggressive restructuring to operate profitably at current demand and changing model mix
- Accelerated development of new products our customers want and value
- Financing the plan and improving our balance sheet
- Working together effectively as one team to leverage our global assets

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Current Financial Health

In recent years, these pages of our Sustainability Report focused on disappointing financial results and our necessary efforts to sustain our business through workforce reductions and streamlined manufacturing. As painful as that process was – and as painful as it remains for those whose jobs were eliminated – it is essential to note that we did not "downsize" our operations as much as we "rightsized" our business. We minimized overcapacity and reduced inefficiencies, resulting in a leaner, but stronger, Ford Motor Company. This positions us to continue the profitable growth we have reported over the past two years so that all stakeholders can benefit from the Company's success.

Prior to our reorganization, we were a company that was global in name only. Today, we operate on a truly global platform, building vehicles that can be adapted for specific regional needs. For example, about 80 percent of the auto parts on our new global Ford Focus are the same around the world; the remaining 20 percent varies to allow for customer flexibility and choice. Flexible manufacturing capabilities enable us to bring products to market with greater speed and greater efficiency than ever before.

The fundamental restructuring of our operations impacted every part of our business – from product innovation and fuel efficiency to labor relations and our interactions with suppliers and dealers. This restructuring helped earn us a "Business Turnaround of the Year" award from the 2010 American Business Awards, which are judged by more than 200 executives from across the U.S. The award recognized our efforts to turn the corner during 2009 in the face of a global economic and financial crisis, as well as unprecedented events in the U.S. automotive industry.

We continued to strengthen our balance sheet in 2010, reducing our Automotive debt by $14.5 billion as we strengthened our business. This included the full $7 billion prepayment of our debt obligations under the Voluntary Employee Beneficiary Association, an independent health care trust established as part of collective bargaining between Ford and the UAW.

We remain committed to aligning production with demand. In many cases, this has meant retooling facilities that previously built large trucks and SUVs to instead manufacture smaller, more energy-efficient vehicles. In 2010, we announced more than $9 billion in global investments for future growth, including $4.5 billion in North and South America, $2.9 billion in Europe and $1.7 billion in our Asia Pacific and Africa region. In early 2011, we announced plans to invest $400 million to support new vehicle production at our Kansas City (Missouri) Assembly Plant, reinforcing our commitment to U.S. manufacturing and American jobs.

Our improved financial performance has allowed us to grow our workforce after several years of painful reductions. We have announced plans to add 7,000 new hourly and salaried jobs in the U.S. between 2011 and 2012. We also have been able to bring more hourly jobs (those that were previously performed by suppliers) in-house, exceeding our commitments in UAW collective bargaining. (For more on our workforce, see the Society section of this report.)

Our financial results also generated tangible employee benefits in 2010. We were able to pay profit sharing to approximately 40,600 eligible U.S. hourly employees, for example. We reinstated a 401(k) matching program and awarded 2010 merit increases for our U.S. salaried employees. We also awarded bonuses and profit sharing for U.S. employees in 2011; however, as part of our ongoing commitment to maintaining a competitive cost structure, we did not award merit increases for the year.

We expect continued financial progress, driven primarily by our growing product strength, a gradually strengthening global economy and an unrelenting focus on improving the competitiveness of our operations.

Ending Mercury Production

A decade ago, Ford Motor Company was made up of eight brands. Today, we have just two, allowing us to focus all of our attention on our Ford and Lincoln brands. In 2010, we ended production of our Mercury brand. Mercury originally was created as a premium offering to Ford and was an important source of incremental sales. However, as the Ford brand grew in strength – particularly during the last three years – many Mercury customers migrated to Ford, and Mercury's incremental sales were declining as Ford sales increased.

At the time of our announcement, there were no stand-alone Mercury dealerships in North America. We worked closely with our dealers to help them sell their remaining Mercury inventory.

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Product Competitiveness

Overall, 2010 marked another pivotal year as we launched 24 new or redesigned vehicles in key markets around the world, including the redesigned Ford Explorer, Ford Edge and Lincoln MKX and the new Ford Fiesta in North America; the redesigned Ford C-MAX and new Ford Grand C-MAX in Europe; and the new Ford Figo in India. In 2011, we are launching the new global Ford Focus in North America, Europe, and Asia Pacific and Africa.

We are boosting global production of smaller-sized vehicles, such as the Fiesta, which debuted in the U.S. in 2010. And we are expanding our lineup of vehicles with affordable advanced technologies, such as the fuel-efficient EcoBoost™ engine. We're on track to offer EcoBoost on as much as 80 percent of our global nameplates and 90 percent of our North American nameplates by 2013. That's about 1.5 million engines.

Our blueprint for sustainability, which highlights how we will meet our product carbon dioxide-reduction goal, has positioned us to lead in our industry and will help us meet new regulatory emissions standards. In the U.S., government regulations will require 36 miles per gallon (fleet average) by 2016 – a 30 percent improvement from the 27 mpg required for 2011 models.

The size of and mileage for our light trucks and SUVs has changed dramatically. Our bestselling SUV for 2010 – the compact Ford Escape – is the smallest in our U.S. lineup, getting 23 combined miles to the gallon (a gas-electric hybrid version gets 32 mpg). Our revamped Ford Explorer, meanwhile, gets 25 to 30 percent better gas mileage than the prior model. We also now offer our first full-size pickup built with a smaller, turbocharged engine.

Electrification is another important piece of our overall product development strategy. We have launched or plan to launch five new electrified vehicles in North America by 2012 and Europe by 2013: the Transit Connect Battery Electric Vehicle (BEV), the Focus Electric BEV, the CMAX Energi Plug-In Hybrid Vehicle (PHEV), the C-MAX Hybrid and a next-generation hybrid sedan yet to be named. Our electrification approach is built around customer choice, with options for hybrids, plug-in hybrids and pure battery electric vehicles.

We see ourselves as more than just a car company. To be competitive, we must also be a technology company.

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Ford Future Competiveness

In the next 20 years, the number of vehicles in the world is projected to double from 1 billion to 2 billion, while the demand for fuel for all forms of transportation is predicted to grow by 45 percent. Global temperatures may continue to rise unless we stabilize greenhouse gases. Erratic weather patterns may impact water availability. And increasing global populations, coupled with improved standards of living worldwide, will put added strains on natural resources.

At Ford, we're looking at ways that technology can help us solve such challenges while creating profitable growth. One key piece of our future strategy is finding ways to tackle the mobility challenges of emerging economies. This includes looking for opportunities to improve transportation in rapidly growing urban centers and enhancing access to vehicles in remote locations. We have been dedicating R&D resources toward developing new integrated mobility solutions.

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Focus on Asia

Our future competitiveness depends largely on our ability to meet growing consumer demand for vehicles in the Asia-Pacific area. If we want to remain competitive, we must have a strong presence in Asia, which will account for 70 percent of the world's population growth over the next five years. The fastest-growing markets for automobiles are in rapidly developing countries, especially China and India.

Ford has been operating in China through two joint ventures: Changan Ford Mazda Automobile Corporation, Ltd. (CFMA), which began production in 2003, and Jiangling Motors Corporation, Ltd. (JMC), which assembles Ford and JMC vehicles for distribution in China.

We have invested more than $4 billion in Asia and currently employ some 25,000 people in the region. We are expanding our production capacity in China, India and Thailand, building several new production plants to help meet the needs of the rapidly expanding consumer base.

In China, for example, automakers have been struggling to keep pace with demand. Ford had a record year in China in 2010, selling more than 465,000 units – a 32 percent increase over the previous year. We have been adding dealerships – more than 100 in 2010, for example – in the western and northern regions of China especially. We now have about 340 dealers in China. (For more information on our expansion in the region, please see the Economy section of this report.)

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Mobility Solutions

For decades, we focused on how to sell more cars and trucks. Today, we are considering the consequences if ***all*** we do is sell more cars and trucks.

It's simple math: as the Earth's population grows, so does its need for mobility, which is a critical enabler of economic growth and human potential. Consider the following:

- There are now more than 6.9 billion people in the world. By 2050, there will be 9 billion, 75 percent of whom will live in urban areas.
- By 2015, it is projected that at least 35 mega-cities will have a population of more than 10 million.
- The number of automobiles globally is expected to grow from about 800 million today to between 2 and 4 billion by 2050.
- During 2010 alone, the car market in China expanded by 30 percent, while the market in India grew by more than 35 percent.

We are poised to capture our share of these growing markets. But we also recognize that there are limits to growth, because putting 9 billion people onto the world's already congested roads is neither practical nor desirable. With growth comes severe mobility challenges, ranging from CO_2 and other emissions to congestion. At Ford, we're addressing these challenges by:

- Reducing the environmental impacts of the vehicles we offer by improving their fuel efficiency, making them from more sustainable materials and taking many other measures detailed in this report
- Developing advanced technologies such as electrified and biofueled vehicles
- Exploring how we can help to reduce the global crisis of gridlock by enabling vehicle-to-vehicle and vehicle-to-infrastructure communications that will allow cars to re-route to avoid traffic jams, based on information sent by other vehicles

But we also recognize that to develop innovative mobility solutions, we need to look beyond the vehicle itself to new models of mobility, which take a more integrated approach toward developing transportation solutions. Our vehicles must fit into a broader ecosystem that ties together multiple modes of transportation, enabled by innovative information technologies.

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New Models of Mobility

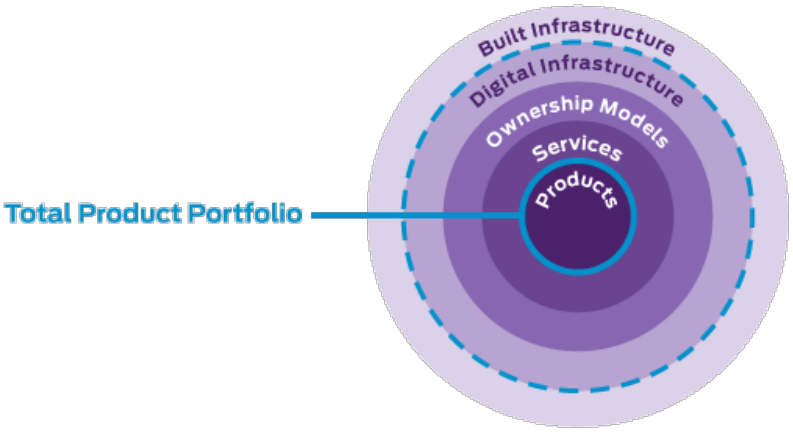
As we reach the limits of conventional models of mobility, we are looking at different models that offer a practical route forward. New approaches take a more holistic view of transportation needs and options, relying on collaborative partnerships and information technology to bring existing services, products, technologies, infrastructure and design together into something that is greater than the sum of its parts – smarter, more sustainable, more convenient, more equitable and better connected.

The last few years have seen technological breakthroughs, such as vehicle-to-vehicle communications, that we didn't ever think possible. Increasingly, Ford is becoming a technology company that makes cars and trucks, and we are exploring ways to leverage these technological innovations to tackle mobility challenges.

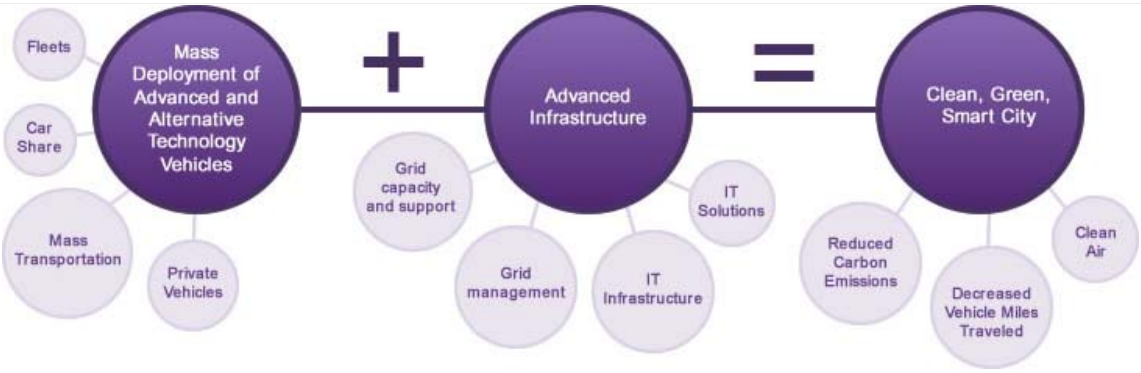
Ford is looking at new mobility options through an "ecosystem" lens that puts vehicles in a broader transportation context. The sustainability ecosystem includes different designs of cars (with different powertrains and different modes of digital connectivity) that can adapt to local geographic needs and integrate with other mass transportation options.

We are analyzing emerging trends, such as population growth, infrastructure, technology and public policy issues (including climate change) to determine how we may fit into a solution. To be successful in the marketplace, Ford can't develop new products in isolation. We must also consider how they will integrate with:

- Built infrastructure (e.g., roadways and parking systems, and the resulting impacts from congestion)
- Digital infrastructure (e.g., "cloud" technology, cell phone use and internet use)
- Vehicle ownership models (e.g., car shares, community car pools)
- Other transportation services (e.g., buses, trains, streetcars, car/bike shares)



For several years, we have invested significant research and development dollars in, and helped to advance thinking about, new models of transportation. We have done this through partnerships and pilot projects at several global locations. Some of these projects have focused on exploring how to deploy electric vehicles as part of integrated mobility solutions aimed at creating "clean, green and smart" cities (see figure below). We believe that creative collaboration and innovative technologies and services can yield new solutions, and that these solutions can harness the benefits of mobility while reducing its environmental and social impacts.



Our goal is to make mobility affordable in every sense of the word – economically, environmentally and socially. Exploring how we can meet social needs will provide insights into the needs of our global customers and new business opportunities for Ford. We aim to be a trusted partner with the many institutions that must cooperate to implement new mobility models. Not only will we be ready with low-carbon vehicles, but also with expertise, insight and mobility solutions.

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SUMURR Project

Recently, we have been taking a closer look at an issue that is closely related to urban mobility: providing economic opportunities for people in rural communities. We're currently examining how automobiles can be part of the solution, from transporting food and water to supplying power from renewable energy sources stored in the vehicle. Improving opportunities for mobility in rural areas may also help alleviate migration to urban areas and thereby slow the problem of urban congestion.

We have been developing a new project that we are calling SUMURR – Sustainable Urban Mobility with Uncompromised Rural Reach. The project is exploring ways we can use our vehicles to add value to society by improving four critical needs – the delivery of potable water; primary education; health; and renewable energy – in India and Brazil.

An initial pilot project will focus on primary health in the Chennai, India, region, where Ford has manufacturing operations. In the poorer rural communities that surround the city, women often neglect their own health, largely because it's difficult to access health care.

"Women feel guilty about taking time away from their families and their demanding lives to travel to the hospital and then spend time waiting to see a doctor," said K. Venkatesh Prasad, group and technical leader of Ford's Infotronics Research and Advanced Engineering team. (Prasad is sometimes described as the "What's Next" guy responsible for software technologies within Ford vehicles.)

Rather than have the women travel to a hospital for health care, the project will take the hospitals to them, in the form of a Ford vehicle equipped with medical supplies and "tele-present" medical practitioners. A mobile broadband connection in the vehicle would enable "telemedicine" service, provided by a doctor back at an urban hospital. (A partnership with a health care provider was under development in the spring of 2011.) The idea is to have the mobile health applications designed, built and managed by local social entrepreneurs, working with the best clinical service and technology providers.

As an incentive to use the service, the patient would also receive a container of drinkable water – an important commodity in the rural regions of Chennai.

"A project like this comes with a deep sense of reward in playing a social role, because it empowers the local communities by identifying entrepreneurs within them," said Prasad, who grew up in Chennai. "But obviously we're also a business, and we can take our learnings from projects like these back into creating products that will drive new global business opportunities with a sharp local focus."

We also are exploring ways we can use our advanced technology vehicles to provide technology to people in rural communities who lack access to computers and digital devices. Prasad described these projects as a form of "digital suffrage" for emerging markets.

We expect these projects to develop more fully in 2011 and 2012, and we hope to have more details – and results of our efforts – to share in our 2011/12 Sustainability Report.

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Mobility Challenges and Opportunities

Mobility is a basic human need. Developed and emerging economies alike require transportation systems to get goods to market and people to the places where they work, shop, dine and gather.

Automobiles have provided personal mobility for more than 100 years. There are currently 800 million vehicles in the world, and that number is increasing rapidly as individuals in developing markets reach new levels of prosperity; it could reach 2 to 4 billion by the middle of this century.

This sounds like good news for an automotive company, and to some extent, it is. But a business model built on private ownership of automobiles comes with inherent challenges, which are related directly to the following current and emerging mega-trends. Taken together, the following trends point to increasingly diverse and fragmented markets for traditional automobile sales. They also point to significant opportunities for companies that are able to respond to mobility needs creatively.

- **Urbanization**: By 2015, it is projected that at least 35 mega-cities will have a population of more than 10 million. The migration of rural populations to urban areas often outpaces infrastructure development, leading to overcrowded, substandard living conditions and inconvenient, congested transportation systems.
- **Built and Digital Infrastructure**: More congestion means greater impacts on roadways and other infrastructure, which will require different products and solutions. Collaboration must occur among manufacturers, energy/utility companies, information technology companies and businesses as transportation and utilities become more interdependent.
- **Congestion**: Each year, traffic congestion is estimated to cost the U.S. $67.6 billion, and the average metropolitan driver endures 27 hours of traffic delays. In many places, especially developing countries, traffic delays are considerably worse, and are increasing at an alarming pace. As more vehicles crowd limited road networks, congestion increases. This, in turn, creates pollution, reduces fuel efficiency and wastes travelers' time. We're working on advancing vehicle-to-vehicle and vehicle-to-infrastructure communication systems that will connect cars, allowing them to "talk" to each other and send real-time updates about traffic congestion, road works and other matters that can delay transportation.
- **Climate Change**: The transportation of people and goods accounts for about a third of global human-caused greenhouse gas emissions. Stabilizing greenhouse gas emissions in the atmosphere will require a concerted effort on the part of the private and public sectors to achieve significant cuts in transport-related emissions, at a time when rapid growth in the transportation sector is anticipated. Climate change and associated regulation is leading to new vehicle standards and increased costs. Other policy changes may lead to more congestion taxes and prohibitions on cars entering city limits.
- **Population**: Different regions of the world are experiencing opposing population trends. Among the more developed countries, only the U.S. is growing in population; Europe, Russia and Japan are all shrinking. Regions of Africa and Asia are growing in population and will have large numbers of young people. But by the middle of this century, most of the world will be much older on average. With most people living in urban areas, more and different forms of mobility will be needed to support independent living for seniors, the disabled and young people.
- **Social Inequality**: The growing gap between rich and poor creates enormous needs for innovative, affordable mobility solutions that meet human needs and help people build a better way of life. Unequal access to transportation often limits the opportunities available to those most in need. Better mobility is part of the solution to unemployment and income disparities.

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Key Partners

Mobility issues are complex and rapidly changing. Developing solutions to mobility challenges requires innovative, systems thinking. That's why we've developed sustained relationships with organizations, including the following, that give us access to the latest research, insights and integrative ability.

- **Sustainable Mobility and Accessibility Research and Transformation (SMART):** Ford has been working with the University of Michigan on the SMART project since April 2005. SMART takes a collaborative, systems approach to developing innovative, sustainable and connected mobility and accessibility solutions in urban regions around the globe. Building on the seminal work of Moving the Economy in Toronto, SMART has pioneered new thinking, new partnerships and pilot projects related to emerging New Mobility markets and industry development.

  SMART has provided the empirical research and inspiration for Ford's mega-city mobility projects. The insights of the SMART leadership team have served as a foundation for our innovative approach to business opportunities related to New Mobility and for our work with other key sectors, including manufacturing, IT, logistics, tourism, real estate, design and more. In addition to developing New Mobility business opportunities and markets, SMART and Ford are seeking to improve quality of life, employment and other community benefits in cities all over the world over the long term. We are convinced that our partnership with SMART will produce a new systems approach for addressing the increasingly complex challenges to achieving sustainable mobility and accessibility globally, while at the same time transforming the transportation industry into a more sustainable and equitable industry.

- **Georgia Tech Joint Research Projects:** Ford and Georgia Tech have a strong cooperative relationship, focused particularly on sustainability. Our present joint research projects are funded under a multi-year agreement to partner in design, manufacturing and logistics, and in mega-city mobility research. Our collaborative approach has been effective in developing talent among students, faculty and Ford professionals, as knowledge is transferred between the university and company settings. For instance, the students develop enthusiasm for the contributions of engineering in the realms of manufacturing and sustainability, and they gain valuable work experience during summer internships. At present, Georgia Tech is assisting Ford by:

  - Developing the business case for urban mobility, especially pertaining to finance, information technology and vehicles (including fuels, design, carbon and powertrains)
  - Building on the results of Ford's prototype projects, particularly with regard to software device connections

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Mega-Cities: The Icon of Personal Mobility Challenges

Mega-cities are urban areas with more than 10 million residents. At least 25 mega-cities already exist worldwide. Twenty are located in the developing world, as are seven of the nine most populous. By 2015, there are projected to be at least 35 mega-cities, with virtually all the growth in developing countries. Mega-cities experience a wide range of social and environmental problems, many of them related to mobility.

All of the mega-trends we have identified, as well as other challenges to sustainable mobility, are at their worst in mega-cities, and engender paralyzing traffic congestion, air pollution, vehicle-related injuries and fatalities, and health problems. Furthermore, social inequality and the dislocation of families and communities are increasing as people move from rural areas to mega-cities seeking economic opportunities. To develop mega-city mobility strategies will require addressing the mobility needs of rural as well as urban residents, as many mega-city problems could be improved by developing new approaches to the transportation of people and goods between rural and urban areas, and by reducing the need for rural–urban migration.

New mobility solutions depend on collaboration and partnership. Technology can “connect the dots,” but only humans can get the varied institutions and interests involved in urban and rural mobility to work toward a common end. Projects like those described in this section require extensive stakeholder engagement and establishment of trust between the many partners with a role to play.

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2010 Sales and Highlights

Business Unit	2010 Wholesales (in thousands)	Percent Change from 2009	2010 Highlights
Ford North America	2,413	25%	■ In the U.S., Ford's sales were up 19 percent in 2010 compared to 2009, the largest increase of any full-line manufacturer. ■ The Ford F-series was the top-selling vehicle in the U.S. for the 29th consecutive year, and the top-selling pickup truck for the 34th consecutive year. ■ In the U.S., Ford's market share was 16.4 percent, up 1.1 percentage points over 2009; the gain was led by strong sales of the Ford Fusion and the Ford Taurus, which increased sales over 2009 by 21 percent and 51 percent, respectively. ■ The new Ford Transit Connect was awarded the 2010 North American Truck of the Year at the North American International Auto Show. ■ The 2011 Ford Fiesta went on sale in the summer of 2010.
Ford Europe[1]	1,573	–	■ Ford remained the second best-selling passenger car brand in Europe in 2010. ■ In the U.K., Ford was the top-selling car and commercial vehicle brand for the 34th and 45th year, respectively. ■ Ford was the total sales market leader in Denmark, Hungary, Ireland and Turkey for 2010, and remained the No. 1 imported brand in Italy and the Czech Republic. ■ We introduced or revealed 11 new vehicles, including the Ford Fiesta and Ka models, the freshened Ford Galaxy, S-MAX and Mondeo, and a new Focus ECOnetic. ■ We announced a $2.3 billion investment in U.K. manufacturing facilities over the next five years, to support the production of low-carbon-emission vehicles.
Ford South America	489	10%	■ We brought a flexible-fuel version of the European-based Ford Focus to Brazil and launched the North American Ford Edge. ■ Ford is investing $2.57 billion in our Brazil operations between 2011 and 2015 to accelerate the delivery of more fuel-efficient, high-quality vehicles.
Ford Asia Pacific and Africa	838[2]	39%	■ Ninety percent of Ford's sales growth for the region came from China (62%) and India (28%). ■ Our sales in China totaled approximately 339,500 units, an increase of 26 percent compared to 2009. ■ In 2010, we announced a $300 million investment to build a new plant in partnership with JMC in Nanchang. This plant will be capable of building 300,000 vehicles per year. We also began building a new CFMA plant located in Chongqing. And we announced plans to build an engine plant with CFMA, also in Chongqing. ■ Over the next three years, Ford will introduce four new vehicles in the Chinese market, including the new Ford Focus. ■ We introduced the fuel-efficient EcoBoost™ engine and PowerShift transmission technologies in China. ■ In India, we had a record sales year, and we are continuing to expand production capacity and new vehicle introductions. Sales for 2010 were up 168 percent, led by strong sales of the Ford Figo, Fusion, and Ikon. ■ We introduced the Ford Figo, an all-new four-door hatchback small car, in India. ■ Ford sales in Thailand were up 78.7 percent over 2009.

1. Included in wholesale unit volumes are Ford-brand vehicles sold in Turkey by our unconsolidated affiliate, Ford Otosan, totaling about 67,000 units and 51,000 units in 2010 and 2009, respectively.
2. Included in wholesale unit volumes in Ford Asia Pacific and Africa are Ford-brand and JMC-brand vehicles sold in China by our unconsolidated affiliates totaling about 483,000 units and 345,000 units in 2010 and 2009, respectively.

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Perspectives on Sustainability

IN THIS SECTION

Scott Belcher

President and CEO
Intelligent Transportation Society of America (ITS America)

"Intelligent transportation systems truly are the next big thing in vehicle safety. Having vehicles communicate with each other to alert drivers to unsafe roads, accidents and other problems will, quite simply, be transformational."

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Michael J. Brennan

President and Chief Executive Officer
United Way for Southeastern Michigan

"When you look at Ford Motor Company today, you see a company with community-focused commitments that are embedded within the corporate DNA. The automaker believes that thriving, viable communities are critical not only to the company itself, but also to those who live and work within its areas of operation."

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Tony (Thomas K.) Brown

Group Vice President, Global Purchasing
Ford Motor Company

"At Ford, we spend a lot of time educating ourselves, trying to understand current supply chain issues that impact our operations today, and emerging issues that may define how we operate in the future."

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Sister Patricia Daly

Executive Director
Tri-State Coalition for Responsible Investment

"Companies that prioritize human rights issues are making an investment that is ultimately deeply connected to brand value."

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Monica Ellis

Chief Executive Officer, Global Environment & Technology Foundation and Chief Executive Officer, Global Water Challenge

"Companies need to evaluate climate change risks holistically – and not just in terms of whether they will have enough water to operate their own businesses. They should also think about water impacts on their workers and their social license to operate."

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Mark Fulton and Bruce Kahn

Global Head of Investment Research, and
Senior Investment Analyst for Climate Change
DB Climate Change Advisors

"Climate change brings with it a tremendous opportunity for the auto industry to create new products and entirely new models of transportation technology. Vehicle electrification, for example, is the long-run destination for the industry."

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Gary Johnson

Vice President, Manufacturing – Asia Pacific and Africa
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President and CEO
Intelligent Transportation Society of America (ITS America)

Intelligent transportation systems truly are the next big thing in vehicle safety. Having vehicles communicate with each other to alert drivers to unsafe roads, accidents and other problems will, quite simply, be transformational.

Indeed, the National Highway Traffic Safety Administration estimates that connected vehicle technologies could lead to a 70 percent reduction in the number of crashes where the driver isn't impaired. In terms of order of magnitude for vehicle safety, this is as big a leap forward as the implementation of seat belts or the addition of electronic stability controls.

Auto manufacturers have already demonstrated the viability of connected vehicles, and the technology has been taking big steps forward in recent years – in part because regulators are considering taking action by 2013 to require such technology.

The system is based upon Dedicated Short-Range Communication, or DSRC, which consists of wireless channels designed specifically for automotive use. DSRC technology is also being used for infrastructure-to-vehicle communications, such as automatic payment systems at tollbooths.

In the United States, auto manufacturers have been investing hundreds of millions of dollars and are working together through the Crash Avoidance Metrics Partnership to develop the technology on an open, shared platform. This means that a Ford vehicle will be able to "talk" not only to another Ford, but to a Toyota, a GM or any other vehicle on the road. The Department of Transportation, which has been encouraging the collaboration, and automakers should be commended for making this big and important commitment.

Of course, there are always naysayers who question the technology platforms. But it's the same argument that doubters made with the introduction of cell phones or the Internet. That is, as soon as you settle on a technology, something else will inevitably come along that is smarter, cheaper or better.

Depending on when vehicle-to-vehicle DSRC technology becomes a requirement for new cars, we can anticipate seeing full penetration of these systems as standard equipment on all vehicles within 10 to 15 years. That's the timeframe needed for deployment within the majority of new vehicles on the road. Meanwhile, "here I am" devices can be installed in older vehicles, speeding the use of vehicle-to-vehicle safety technology. Once fully deployed, cars will be able to communicate to avoid crashes and to allow for better management of our highways and infrastructure.

In addition, consumer electronics companies are building after-market vehicle-to-vehicle technology devices.

ITS America has been working to harmonize the standards globally, so that vehicles in Europe will communicate with each other the same way that they do in the United States or in Asia. You want the safety messages and the systems to operate on the same platform – but we're not there yet. Ford has been very actively involved in this effort.

The safety benefits for these communications are often seen as the top priority, but vehicle-to-vehicle capabilities can also have big impacts on traffic congestion and on the environment. If you know to steer clear of a certain highway, then you can reroute your commute and avoid sitting in traffic – thereby reducing your vehicle emissions. Similarly, this system can help to identify parking spots in an urban setting, thereby significantly limiting the amount of time spent circling around looking for a spot.

Automakers have much at stake on the issue of climate change. Vehicle-to-vehicle communications are just one way they can make a substantial contribution toward reducing greenhouse gas emissions.

Scott Belcher

President and CEO
Intelligent Transportation Society of America (ITS America)

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Michael J. Brennan

President and Chief Executive Officer
United Way for Southeastern Michigan

The partnership between United Way and Ford dates back more than 60 years. Even in its early days, the company understood that it was essential for a successful corporation to address the most pressing human needs within society. Ford has a long history of mirroring its belief system with actions.

When you look at Ford Motor Company today, you see a company with community-focused commitments that are embedded within the corporate DNA. The automaker believes that thriving, viable communities are critical not only to the company itself, but also to those who live and work within its areas of operation.

Sadly for our community, Detroit can be seen as the “ground zero” of the nation’s economic crisis. The devastation to this city is equivalent to that of New Orleans following Hurricane Katrina – only without the floods. In 2010, our United Way “help line” took in 400,000 calls from southeastern Michigan (up from 300,000 in 2008) – with hunger the top reason for assistance.

Many of those calls for food relief were coming from areas that never before needed help, which meant social service organizations didn’t have the infrastructure to support so many in need. Ford worked with us to develop a mobile strategy, through which we could take food directly to individuals using a fleet of Transit Connect vans donated by Ford for this purpose. These vans are able to bring food to historically middle-class communities where food pantries simply don’t exist.

Despite Ford’s own financial troubles in recent years, the company continued to stand behind its communities. The approach has been focused and strategic, because the company has had to do more with less. When Ford had to re-focus its charitable dollar contributions to maximize community impacts, it harnessed the energy of its employees for volunteer projects. The company found creative ways to use its people and its products to address urgent social issues.

The most important thing a company can do for its communities is to be successful as a private enterprise. After all, there’s nothing more power than a viable, sustainable and meaningful job.

I’ve been doing this kind of work for 25 years, and the companies that weather the most difficult times are those that have a deep understanding of the interdependence between a successful company and a successful community. Companies that encourage their employees to be engaged within their communities are far likelier to do well. Indeed, employees want to work for organizations that allow them to find meaning in their lives.

I could give a company a detailed checklist of the things they and their employees can do for their communities. But unless a company has a deep and abiding commitment from corporate leaders, execution of the checklist will be a thankless task. The big differentiator for Ford is that they understand the importance of community work, and they attach the leadership and the resources to it so it can reach its full expression.

Michael J. Brennan

President and Chief Executive Officer
United Way for Southeastern Michigan

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Tony (Thomas K.) Brown

Group Vice President, Global Purchasing
Ford Motor Company

When we started on our sustainable supply chain journey in 2000, Ford really was on the leading edge of our industry. As a consequence, it meant we had a lot of learning to do ourselves about the true meaning of supply chain sustainability.

The more we learned, the more we realized that it was not a journey we could legitimately take on our own. One of the first things we did was think about ways to bring the auto industry along with us, so we could have a much more significant impact. To leverage our resources and truly influence change, we needed to educate ourselves and educate other automakers to get them to understand how essential a sustainable supply chain is to business operations.

We're proud of the fact that we've been successful not only in improving working conditions among our own direct supplier companies, but also in getting the industry to partner with us to advance the overall human rights agenda. We have had a terrific multiplier effect, thanks to the efforts of our industry collaborative, the Automotive Industry Action Group Initiative (AIAG). Thousands of individuals and hundreds of plants all over the world have received training in responsible working conditions issues.

One of the biggest challenges in this area lies in developing sustainable supply chains in emerging markets. Not all developing markets are receptive to the importance of human rights for their workforce. For countries that are nation building, not everything is going to be perfect from Day One, and it's unrealistic for us to expect that.

Of course, business priorities can change for any company, whether you are in a developed market or an emerging one. For example, when our industry went through a difficult period in 2008 and 2009, as a result of the economic meltdown, supply chain sustainability issues did not get the attention they deserved. Fortunately for Ford, we were able to maintain our focus in this area, even during difficult financial times.

At Ford, we spend a lot of time educating ourselves, trying to understand current supply chain issues that impact our operations today, and emerging issues that may define how we operate in the future. To use a hockey analogy, it's the concept of understanding where the puck is going to be, versus where the puck is right now. In addition to our work with the AIAG, we also collaborate with nongovernmental organizations, the U.S. government and the United Nations so we can be a part of shaping policies around human rights issues.

Ford's overall approach has been about building our own knowledge and capacity, which in turn has helped to build knowledge and capacity among our suppliers, which, in turn, helps them do the same with their own suppliers. For us, it's been a voyage of discovery – and we're not yet at an endpoint.

Tony (Thomas K.) Brown

Group Vice President, Global Purchasing
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Sister Patricia Daly

Executive Director
Tri-State Coalition for Responsible Investment

When it comes to human rights issues, the best corporate citizens – and the ones with the greatest integrity – are those companies that have very clear codes of conduct, with real buy-in and participation from top levels of management and from members of the board of directors. There has to be a deep understanding throughout the company about the implications of the code. I'm not talking about a code that simply says: "We're going to be good people."

An effective code of conduct must identify the company's responsibility to its own employees, but also its responsibilities to the working conditions of the people who work within the supply chain. The code should factor in broader issues of human rights, such as water availability in stressed regions. And the code must be a living document that is pertinent to the operations of a company and that can adapt over time.

As an example, members of the Interfaith Center on Corporate Responsibility (ICCR) were among the first to raise concerns to global manufacturers over conflict minerals in the Congo. Companies need to be responsive to new information about human rights abuses within their spheres of operation and be prepared to be accountable.

Companies that prioritize human rights issues are making an investment that is ultimately deeply connected to brand value. Of course, it's an investment whose outcomes can initially be hard to quantify. Yet, companies that run afoul of human rights issues can find themselves in trouble very quickly – especially in a 24-hour news cycle where disturbing videos can be seen by millions of people around the globe within minutes.

Ford has a reputation within the auto industry for taking a leadership role on human rights issues. For example, in recent years it's been wonderful to see how the company has initiated addressing concerns around the accessibility and availability of water and abuses in the Congo over conflict minerals. On the conflict minerals issue, Ford is attempting to address the concerns right up front.

I've been working with Ford on social and human rights issues for more than three decades, but the real turning point in our relationship came in the mid 1990s when our coalition put forward our first shareholder resolution around global warming. Bill Ford understood our concerns, and he opened up a strategic dialogue for us, becoming one of the first U.S. companies to seriously engage business perspectives around greenhouse gas emissions. We've had a robust and engaged relationship ever since. We may agree to disagree sometimes, but we have a strong working relationship that is built in large part on trust.

Very often, investment managers will ask me to list five global companies that are tackling human rights issues and engaging openly with their shareholders and nongovernmental organizations. Ford always comes to mind.

Engaged shareholder organizations such as the Tri-State Coalition for Responsible Investment and the ICCR want our companies to profit, but we believe that long-term profitability is clearly linked to strategies that avoid behaviors that are harmful, and in the end contribute to society as a whole. A company with a robust code of conduct demonstrates that it aims to be a company of great integrity and that it's not simply about financial profits.

For me, it's an honor to be partnering with employees who really want to ensure that their company is profitable and filled with integrity, and who want their company to play a role in making the world a better place.

Sister Patricia Daly

Executive Director
Tri-State Coalition for Responsible Investment

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Monica Ellis

Chief Executive Officer, Global Environment & Technology Foundation and Chief Executive Officer, Global Water Challenge

Water supply and quality challenges are growing increasingly acute. This trend is expected to continue, with the greatest impacts in Africa, West Asia, China, India and Indonesia – the future growth markets for many companies. Experts predict that by 2015, two-thirds of the world's population will live in water-stressed areas.

Today, nearly 1 billion people worldwide lack access to safe water, making it one of the world's most significant yet underreported public health challenges. When you couple that with the 2.6 billion people who lack sanitation, the true scope of the challenge becomes clear. Yet despite these grim statistics, this is one of the most solvable issues of our time. Companies have an important role to play in the solution.

A growing number of companies are stepping up their leadership on water issues out of recognition that water is a basic element of a healthy, vibrant and economically viable community. Clean water provides the underpinnings for prosperity. Without clean water access, we often find economic and social instability.

A company that is interested in leading the change toward solutions must first make sure that its own house is in order. Is your own water use as efficient as possible? Are you setting targets to improve your efficiency over time? How do you impact the watersheds where you operate? Outside of your operations, how are you working to improve water quality and access within the communities where you operate? Do your own employees have access to safe water and sanitation at home? Once those issues are addressed, companies can further expand outward to examine their impacts and their ability to be "change-makers" at the regional, national and global levels.

Companies that tackle water issues in concentric circles that radiate outward are able to address community needs while mitigating important business risks. This includes risk to the business from issues such as climate change. Water will be one of the first resources affected in locations where climate change is felt, particularly in coastal and water-scarce regions. This will likely exacerbate water availability problems, especially in emerging growth markets such as China and India.

Companies need to evaluate climate change risks holistically – and not just in terms of whether they will have enough water to operate their own businesses. They should also think about water impacts on their workers and their social license to operate. If employees don't have access to safe water, then they are more prone to waterborne diseases and won't be effective at their jobs.

Over the last decade, I have seen amazing progress among companies that have decided to tackle water as a front-line issue. The challenge, however, is this: Are they addressing it fast enough and in the places with the greatest needs? Ford is one of a number of leading companies that are members of Global Water Challenge, which is investing in collaborative solutions to expand access to clean water and sanitation to those in need.

The water challenge is too large for any one sector to tackle alone. Public and private groups must work together to find sustainable solutions. For example, through efforts by governments, organizations and private-sector actors, roughly 200 million people have gained access to clean water over the past decade.

I applaud Ford's recognition of water as an issue material to its business. It's a very powerful thing when companies understand their environmental footprints and choose to leverage this understanding for the greater good. When a company like Ford takes this step, that gets the attention of competitor companies and stimulates momentum. It is this momentum that provides perhaps the best hope for solving the global water crisis.

Monica Ellis

Chief Executive Officer, Global Environment & Technology Foundation and Chief Executive Officer, Global Water Challenge

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Mark Fulton and Bruce Kahn

Global Head of Investment Research, and
Senior Investment Analyst for Climate Change
DB Climate Change Advisors

Among investors, widespread interest in climate change and its impacts really began in the mid 2000s. We believe climate change investing is a mega-trend that will be here for another 50 years, if not longer.

Companies must view climate change as a business issue, as an environmental issue, and as a moral and a social issue. How a company discusses these topics depends in many ways upon its audiences. In the United States, for example, right now climate change is looked at more in terms of energy security and cost reductions in renewable energy. In Europe, climate change is also about impacts on the environment. And in China, climate change is viewed more through the lens of pollution and industrial energy policy.

Those who want to make climate change-related investments are looking for what we like to call "TLC" – transparency, longevity and certainty in policy frameworks. Therefore, having governmental and regulatory policies around climate change, mandates, standards and incentives is absolutely essential for investors who must be able to evaluate appropriate risk-adjusted returns.

In the United States, there's a strong feeling that federal regulations have been on-again, off-again in terms of supporting cleaner energy and alternatives. Many states, however, have proven to be more consistent with their policies and regulations, particularly California, Texas and New Jersey. In Europe, Germany's policies around climate change are comprehensive and arguably best in class; the United Kingdom has been moving strongly in that direction.

For us, analyzing policy and regulations is the heart and core of what we're doing as a research group.

Obviously, climate change brings with it a tremendous opportunity for the auto industry to create new products and entirely new models of transportation technology. Vehicle electrification, for example, is the long-run destination for the industry.

Around the world, governments have been pushing fuel-efficiency standards, forcing auto manufacturers to tighten up and make dramatic increases in efficiency. But clearly, the auto industry will need to partner with other industries, such as utilities and power generators, because the infrastructure needs for new modes of transport will be enormous. Auto companies simply can't solve energy and transportation problems on their own. There's not much point in electrifying the transport sector if gasoline is replaced with heavy, carbon-burning fuels like coal.

As we move more toward the electrification of vehicles, we must find better ways to play into the power system so that plug-in cars become sources of energy storage. For example, can we harness wind power overnight to charge car batteries? How will the auto industry play into the smart grid to ensure that the power provided for electrification is indeed clean power?

In many senses, climate change is simply another symptom of population growth and the increasing wealth of global populations, which becomes a problem when combined with the use of fossil fuels. We have gone from 1 billion people on the planet in 1900 to 6.5 billion now; and we're heading toward 9.5 billion by 2050. If all these billions of people want to live like we do in America, then we will place a tremendous burden on the resources of this planet and the environment. Water scarcity is likely to be the next crisis – and potentially an even bigger one than climate change.

Ultimately, the only way we can provide the power, water, transportation and food for 9.5 billion people is by having an enormously powerful deployment of technologies that will allow these resources to work for the planet in a clean and sustainable way.

Mark Fulton

Global Head of Investment Research
DB Climate Change Advisors

Bruce Kahn

Senior Investment Analyst for Climate Change
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Gary Johnson

Vice President, Manufacturing – Asia Pacific and Africa
Ford Motor Company

Ford is currently undergoing the largest growth in our manufacturing operations that our Company has witnessed in four to five decades. Most of this is occurring in the Asia Pacific region, with new Ford production plants coming online in China, India and Thailand. Over the next four years, we will be introducing more than 50 new vehicles and powertrains in our Asia Pacific and Africa region, which is expected to account for 70 percent of Ford's future growth.

In 2010, auto sales in China reached more than 18 million – a tenfold increase from a decade earlier. To put that in perspective, that's more auto sales than we've ever seen in a year in the United States. About 70 percent of buyers in China are first-time auto purchasers. And 90 percent of those buyers pay with cash.

That's why we at Ford are positioning ourselves to participate in this tremendous growth opportunity. Over the last few years, we have developed a new business model with globalized vehicle platforms that can be adapted to specific regional needs. Ultimately, every vehicle we launch globally will be evaluated for markets in China and India, too.

Right now in China, we rank as the 13th or 14th automaker in terms of sales – well behind our ranking in the North American and European markets, where we are consistently within the top three auto producers. But we believe we'll be able to significantly increase our presence in the Chinese market.

Two years ago, we moved our Asia Pacific headquarters from Thailand to China, because that's where the biggest growth is. The move has given us much greater insight, because we're able to see firsthand what's going on in China. We understand the customers and how our joint ventures operate. We also have gained a better understanding of our supply base, our dealer footprint and how to hire the workforce we need to compete effectively.

Ford was slightly late to the game in China, in part because we didn't truly operate as a global company until the last few years. But recently, we have focused on our One Ford plan and strategy that cuts across all of our regions of operation. Today, 90 percent of our products are global, which gives us the ability to compete anywhere in the world.

Of course, there are a host of challenges for Ford in these markets. For example, can we deliver the products we promise on time? We can have extremely aggressive growth plans, but we need to have the manufacturing capacity and capabilities to produce results.

Another challenge is integrating Ford into these new communities in a sustainable fashion. Each time we build a new manufacturing plant, we examine social and environmental factors, such as traffic congestion, accessibility within the local communities to water and electricity, and biodiversity. Many of the locations we are entering are underdeveloped, so we must consider ways Ford can help support the community.

This period of growth is incredibly exciting. The last period like this at our Company was in the late 1950s and early 1960s, so most of us have never seen anything like this – and most of us will likely never see anything similar again.

Gary Johnson

Vice President, Manufacturing – Asia Pacific and Africa
Ford Motor Company

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Michael Muyot

President and Founder
CRD Analytics

In recent years, we have witnessed the exponential growth of companies that are reporting metrics that capture their activities around environmental, social and governance issues (or ESG, for short). More and more, companies are integrating these measures into their overall corporate accounting standards. In fact, those companies that are not monitoring, measuring and optimizing their ESG performance are seen as laggards.

At CRD Analytics, we evaluate corporations through the lens of some 200 quantitative and qualitative metrics to give investors a truly holistic view of where companies fall within their industries and across different sectors on ESG and financial measures. We focus on a range of key performance indicators, from a company's commitment to human rights and community involvement to its performance in product responsibility and environmental impacts.

About 3,500 companies worldwide produce some type of corporate social responsibility (CSR) report with quantifiable ESG metrics. But, with 60,000 multinational firms in the world, we're not even close to hitting critical mass. A growing number of companies are issuing social responsibility reports in the United States and Asia, while Europe, which historically had been the leader in reporting, has tapered off.

Socially responsible investing has become so mainstream among institutional investors that it has now passed the tipping point. And individual investors, who make up 30 percent of all shareholders, have become more active and are thinking about CSR issues when they buy and sell company shares. Individual investors and consumers have an incredible amount of information at their fingertips and are increasingly loyal to those brands that mirror their own individual belief systems. When a company gets into trouble, consumers see the headlines almost instantly through social media. And we see this having an impact on individual purchasing and investing behaviors.

Ford, which is one of the companies my firm tracks in our analytic reports, has shown strong improvements in its ESG ratings from 2007 to 2010. The company demonstrates a nice balance between financial and ESG issues, ranking number two within the automotive industry.

Companies like Ford that have weathered the recent financial crisis have done so partly because of strong internal governance and a vision for corporate responsibility that not only originated from the top down, but also was incorporated from the bottom up. Employee engagement is a critical component in making sustainable practices part of the company's DNA.

Ford has strong visibility within the global responsible investment community, thanks in large part to its use of the Global Reporting Initiative (GRI) G3 Reporting Guidelines, a GRI Index for its online and printed sustainability reports and the fact that the company produces a report at a GRI application level of "A."

The most successful corporate responsibility reports tell a story and provide details of both the good and the bad at a company. That's one of the things I believe Ford does really well. The automaker talks openly about the challenges it faces, and that makes investors feel the company is more trustworthy. Investors don't believe companies that "greenwash" and claim that everything is rosy. Transparency is key.

Companies that can tie sustainability to their brands, and show how citizenship is woven into their DNA, will be able to differentiate themselves from their peers. Investors want to see how the company treats its employees, how diverse its Board of Directors is and how it manages in a crisis, to name just a few examples.

Ford has an amazing opportunity to really engage with its customers in a revolutionary way through technology and social media – and to define itself as a sustainable brand. To get to the next level, Ford must show that it is listening to its employees; after all, it's the employees who can help advance sustainability by finding new ways to innovate, save money and promote the brand.

Michael Muyot

President and Founder
CRD Analytics

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Gerhard Schmidt

Chief Technical Officer, Vice President of Research and Advanced Engineering (Emeritus)
Ford Motor Company

I spent a decade at Ford, before my recent retirement, looking at ways to advance automotive engineering and research. Although my job description was technically the same over those 10 years, the roles I played varied, and I considered myself at times a scientist, an engineer, a teacher and occasionally even a visionary.

The visionary part may be a bit overstated, but one has to be forward-thinking when considering long-term solutions for climate change and how to make better use of natural resources. In the early 2000s, the Company wasn't ready to accept that climate change was a potential threat. We were fortunate that Bill Ford started to address the importance of climate change and translate his own visionary approach into the creation of products that could address the problem.

Yet even when the Company began to recognize the significance of climate change, the business environment at Ford couldn't immediately support the development of potential solutions. A decade ago, nearly three-quarters of the vehicles we were building in North America were trucks and SUVs, which meant it would have been nearly impossible to achieve stringent emission reduction targets along the lines of those that were already in place in Europe.

The biggest challenge initially wasn't just knowing what technologies were available to reduce vehicle emissions, but thinking about what Ford's long-term product portfolio might look like.

Part of the ultimate success story for Ford stems from the fact that the Company fully integrated science into its product and operations decision-making processes. As a scientist, it was incredibly exciting to see Ford begin to integrate sustainability issues into our corporate strategies and to conclude that it was the right thing to do. Today, the Company recognizes that building more fuel-efficient products creates a stronger business. There's no longer a conflict between having a strong business and building more-efficient powertrains and products. Being the best in class in fuel economy (which also means best in class in terms of CO_2 emissions) gives Ford a distinct competitive advantage.

When developing new automotive technologies, you're not looking a year or two ahead – you're looking 10 to 15 years out. Every new technology objective at Ford must take into account four essential pillars: safety, quality, environmental sustainability and design. Put another way: Ford automobiles must be safe, clean and smart. After all, if the car doesn't look nice and doesn't offer the right features, customers won't buy it.

To improve a vehicle's carbon footprint, the auto industry must work together and with governments, academics and community organizations. We know already that significant emissions reductions won't be possible simply by improving today's powertrains. The long-term roadmap requires much greater use of battery electrification and other applications, such as fuel cells, and we'll require new infrastructures and transportation systems as a result.

Looking ahead to the future, auto companies will need to deliver a balanced portfolio with alternative energy sources that are tailored to particular regions. For example, in Iceland, where there's a high production of geothermal energy, automobiles might run only on fuel cells. But that wouldn't be practical, for example, in Detroit.

Where environmental sustainability is concerned, the goal must be to make advanced, more-efficient technologies that are affordable for everyone – in other words, "the democratization of technology," which was a philosophy that Henry Ford himself embraced when he started his Company.

Gerhard Schmidt

Chief Technical Officer, Vice President of Research and Advanced Engineering (Emeritus)
Ford Motor Company

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This Report:
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- For second consecutive year, named one of World's 100 Most Ethical Companies
- Ranked #1 for human rights by *Corporate Responsibility Magazine*
- Developed guidelines for employees' social media interactions
- In this section, have broadened coverage of public policy issues

Sound governance and management systems enable a company to operate in a transparent and accountable way and provide effective oversight of operations. High ethical standards – formalized in company policies and demonstrated by managers at all levels – help a company translate its aspirations into action.

The concept of governance has expanded beyond its traditional focus on fiduciary responsibility to shareholders to a broader focus on a company's impact on the world and its responsibilities to diverse stakeholders. At Ford, this is reflected in our development and integration of sustainability structures, processes and management systems into the core business.

Assessing Materiality

In our latest materiality analysis, completed in early 2011 for this report, a number of topics relating to governance and accountability were identified as issues of importance to Ford and our stakeholders.

Ethical business practices were identified, for example, to be of high potential impact on Ford and of medium concern to stakeholders. Also, issues related to Ford's "sustainability strategy, vision, governance and management" were identified to be of high potential impact on the Company and medium concern to stakeholders. The governance aspect of this item was newly added this year, reflecting growing investor and NGO interest in integrating sustainability into business processes.

The materiality analysis found that the issue of human rights and working conditions in Ford operations was of lower concern to stakeholders than in previous years, perhaps because our human rights code has been integrated into our overall governance. These issues are now discussed in this Governance section, rather than a separate human rights section. (The issue of human rights in our supply chain remains of high importance to stakeholders, and is discussed in the new Supply Chain section.)

Finally, several public policy issues were identified in the analysis, including the following:

- **Sustainable raw materials.** This topic, which is new for this year, includes issues around conflict minerals and rare earth metals, as well as the overall impact of raw materials extraction on the environment, communities, geopolitics and Ford's costs. This set of issues was judged to be of high potential impact on Ford and high concern to stakeholders.
- **Greenhouse gas (GHG) and fuel economy regulation.** Regulations related to GHG emissions and fuel economy were judged to be of continued high potential impact on the Company and high concern to stakeholders.
- **Global environmental regulations.** Changing environmental and safety regulations in general were judged to be of high potential impact on Ford and medium concern to stakeholders.
- **Political payments and contributions.** Political contributions were judged to be of medium potential impact on the Company and medium concern to stakeholders. The analysis found that stakeholders, including shareholders, are increasingly interested in transparency around corporate participation in the political process and various forms of corporate political donations.

Based on this assessment, we included discussion of these issues in this web report.

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- Public Policy Positions

Progress

In 2010, we developed and implemented "digital participation guidelines," to guide employees' interactions in social media such as Facebook and Twitter. In addition, we established an online training that helps employees understand how to adhere to these guidelines.

We also have taken part in policy discussions around "conflict minerals." We met with the U.S. Securities and Exchange Commission to discuss substantive issues relating to the implementation of a new law requiring companies to report annually on their use of conflict minerals. And, we are piloting the implementation phase of the Organisation for Economic Co-operation and Development's Framework for Due Diligence regarding conflict minerals. See the Public Policy section for more on these issues.

In 2010 and early 2011, Ford received a number of recognitions for our corporate responsibility work, our reporting and our governance practices. For example, Ford was ranked second out of 350 of the largest U.S. companies in the latest Maplecroft Climate Innovation Index, which rates company performance in climate-related innovation and carbon management. See the Awards and Recognitions page for additional awards received.

This section of the report discusses Ford's overall and sustainability governance, including how we address human rights and other ethical issues and its management of key sustainability issues.

Related Links

This Report:

- 2010 Awards and Recognition
- Public Policy

External Websites:

- U.S. Securities and Exchange Commission
- Organisation for Economic Co-operation and Development

Governance and Management Structures

Board-Level Governance

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Board Committees

Audit
Compensation
Nominating and Governance
Sustainability
Finance

Policy Documents

- Corporate Governance Principles (pdf, 53kb)
- Code of Ethics for Board of Directors (pdf, 34kb)
- Committee Charters

Sustainability Management

Group VPs

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Find out more about Sustainability Management

Policy Documents

- Code of Conduct Handbook (pdf, 0.99Mb)
- Code of Ethics for Senior Financial Personnel (pdf, 17kb)

This Report:

- Policy Letters and Directives

Sustainable Mobility Governance

Key Business Processes

Business Plan Review
Global Product Development System
Special Attention Review
Ford Production System
ISO 14001 Certification
Order-to-Delivery

2010 Awards and Recognition

In 2010 and early 2011, Ford received a number of awards and recognitions for our corporate responsibility and sustainability efforts and governance practices.

In 2011, for example, Ford was honored (for the second year in a row) as one of the World's Most Ethical Companies by the Ethisphere Institute. Ford was one of only 100 companies on this list, and the only automaker. Ford was chosen for this distinction from a field of thousands of companies in more than 100 countries and 36 industries. To be included, a company must receive high ranks in seven key areas: corporate citizenship and responsibility; corporate governance; innovation that contributes to the public well-being; industry leadership; executive leadership and tone from the top; legal, regulatory and reputation track record; and internal systems and ethics/compliance program.

Ford's 2009/10 Sustainability Report was a finalist in the 2010 Ceres/Association of Chartered Certified Accountants (ACCA) North American Awards for Sustainability Reporting. These rankings acknowledge best practices in the reporting and disclosure of sustainability performance.

In 2011, *Corporate Responsibility Magazine* ranked Ford 63rd in their "100 Best Corporate Citizens" list, which reviews large-cap companies headquartered in the United States. (In 2010 Ford ranked 88th.) We remain the only automotive company in the top 100. Within this overall ranking, Ford was ranked first in the area of human rights, 11th in philanthropy and 14th in environment.

In 2010, Ford was included in the Dow Jones Sustainability Index North America and the FTSE4Good Index, based on favorable evaluations of our sustainability programs and performance.

In 2010, for the second year running, Ford was the only automaker to be listed among *Newsweek* magazine's "Green Rankings." This list rates America's 500 largest companies on environmental impact, environmental policies and performance, and reputation among CEOs, social responsibility professionals, academics and other environmental experts. Ford was ranked 82nd in the complete list of 500 companies and ninth in the sector category of consumer products and cars.

Also in 2010, Ford was ranked second out of 350 of the largest U.S. companies on the latest Maplecroft Climate Innovation Index. Only GE ranked ahead of us. This index evaluates and rates company performance in climate-related innovation and carbon management.

Ford also won the "Business Turnaround of the Year for Companies with More Than 2,500 Employees" at the 2010 American Business Awards. The award recognizes the Company's efforts to turn the corner in 2009 in the face of a global economic and financial crisis. The award was judged by more than 200 business leaders from across the country.

In late 2010, the NASDAQ OMX CRD Global Sustainability Index (QCRD) expanded from 50 to 100 companies, and Ford was among the companies included in the expanded list. The QRCD is compiled by CRD Analytics, which evaluated more than 3,000 global companies on 200 environmental, social, financial and governance performance metrics and chose the top 100 from among them.

Finally, in late 2010 Ford was named Nielsen Automotive Green Marketer of the Year by The Nielsen Company. The honor was given in recognition of Ford's efforts to shape consumer awareness of environmental concerns – in particular via our marketing of the Ford Fiesta and the Ford Fusion hybrid.

Related Links

External Websites:

- Ethisphere Institute
- Ceres
- Corporate Responsibility Magazine
- Dow Jones Sustainability Index
- FTSE4Good Index
- *Newsweek's* Green Rankings
- Maplecroft Climate Innovation Index
- American Business Awards

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Sustainability Governance

Upholding high standards of corporate governance is key to maintaining the trust of investors and other stakeholders. In this section, we discuss governance by our Board of Directors, how we set and communicate standards to employees and other personnel, how we encourage and enforce ethical business practices, our commitment to the U.N. Global Compact, how we are integrating sustainability into our organizational structures and business processes, and our approach to sustainability reporting – a key element of our commitment to transparency.

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Corporate Governance – Board of Directors

Ford corporate governance principles, code of ethics and charters for each Board committee – all publicly available in the corporate governance section of the Ford website – set the framework for Ford's Board of Directors.

Ford's Board addresses significant business issues as a full group and through five committees: Audit, Compensation, Finance, Nominating and Governance, and Sustainability. In July 2008, the former Environment and Public Policy Committee was renamed the Sustainability Committee, reflecting the evolution of its responsibilities and the Company's challenges and opportunities. The principal functions of the Sustainability Committee are as follows:

- Assist management in the formulation and implementation of policies, principles and practices to foster the sustainable growth of the Company on a worldwide basis. "Sustainable growth" means the ability to meet the needs of current customers while taking into account the needs of future generations. "Sustainable growth" also encompasses a business model that creates value consistent with the long-term preservation and enhancement of financial, environmental and social capital.
- Assist management in the formulation and implementation of policies, principles and practices to permit the Company to respond to evolving public sentiment and government regulation in the area of motor vehicle and stationary source emissions, especially in the area of greenhouse gas emissions, fuel economy and carbon dioxide regulation.
- Assist management in setting strategy, establishing goals and integrating sustainability into daily business activities across the Company.
- Review on a continuing basis new and innovative technologies that will permit the Company to achieve sustainable growth and Company actions to protect those technologies.
- Review on a continuing basis partnerships and relationships, both current and proposed, with customers and others that support the Company's sustainable growth.
- Review on a continuing basis the Company's communication and marketing strategies relating to sustainable growth.

During 2010, seven Directors served on the Sustainability Committee, which is chaired by Dr. Homer Neal, an independent director. Ford's Board of Directors met 10 times and the Sustainability Committee met four times.

The Board's Nominating and Governance Committee considers several qualifications when considering candidates for the Board. Among the most important qualities directors should possess are the highest personal and professional ethical standards, integrity and values. They should be committed to representing the long-term interests of all shareholders. Directors must also have practical wisdom, mature judgment and objectivity. Ford recognizes the value of diversity and we endeavor to have a diverse Board, with experience in business, government, education and technology, and in areas that are relevant to the Company's global activities.

Under New York Stock Exchange (NYSE) Listed Company rules, a majority of our directors must be independent directors. The NYSE rules also provide that no director can qualify as independent unless the Board affirmatively determines that the director has no material relationship with the listed company. Ford's standards in determining whether or not a director has a material relationship with the Company are contained in the Company's Corporate Governance Principles. Based on Ford's standards, 10 of the Company's current 13 Directors are independent. Two of Ford's Directors are women, one Director is African-American and one Director is Hispanic.

Each Board member participates in an annual assessment of the effectiveness of the Board and the Committees on which he or she serves. We have established a procedure for shareholders to submit accounting and other concerns to independent directors and to send other communications to the Board.

For more information on Ford corporate governance practices, including the principles and policies that govern the conduct of the Board and the members of the Board, please see our website.

Related Links

This Report:

- Governance and Management Structures

Corporate.ford.com:

- Corporate Governance
- Board of Directors
- Corporate Governance Policies

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Policy Letters and Directives

Policy Letters establish a framework of broad, basic principles within which the Company conducts its business globally. Corporate Directives provide more in-depth information on narrower topics than Policy Letters, and therefore may only apply to a particular segment of the business, or specific activities. In addition to Policy Letters and Directives, numerous descriptions of business practices, handbooks, guidelines and statements of business standards govern the conduct of employees globally.

The following are Ford standards with particular relevance to sustainability.

Human Rights

Ford's commitment to human rights is embodied in our Code of Basic Working Conditions (CBWC), which forms the foundation of our own operations and supply chain and our collaboration with others in the industry. The CBWC articulates our commitments on key human and labor rights issues. In effect since 2003, it was more formally adopted as a Policy Letter in 2007.

The CBWC is based on fundamental elements of internationally recognized labor standards, including the Universal Declaration of Human Rights, International Labour Organization Covenants, the Organisation for Economic Co-operation and Development's Guidelines for Multinational Enterprises, the United Nations' Global Compact Principles, the Global Sullivan Principles, and standards of the Fair Labor Association and International Metalworkers' Federation. Ford encourages businesses throughout our supply chain to adopt and enforce similar policies, and seeks to identify and do business with organizations that conduct their businesses to standards that are consistent with the CBWC.

The CBWC covers workplace issues such as working hours, child labor and forced labor. It also reflects our increasingly integrated approach to managing human rights and community issues by articulating our commitments on several key issues that extend beyond the fencelines of our facilities, including community engagement and indigenous populations, bribery and corruption, and environment and sustainability. We actively promote and assess implementation in our own operations and in our supply chain.

We encourage employees who have a good-faith belief that there may have been a violation of this Code to report it through established channels, which vary by region, or to Ford's Office of the General Counsel. These reports are then forwarded to the Manager of Human Rights, who takes action to clarify, validate and correct the situation, if necessary. No retaliatory actions are taken against employees who report concerns about violations of the CBWC.

We are continually looking to improve the Code, and we welcomed the opportunity in 2010 to comment on the guiding principles for the implementation of the "protect, respect and remedy" framework designed by John Ruggie, Special Representative to the United Nations Secretary General on business and human rights at the international level. Ford is eager to implement many of these recommendations, and we are using the principles to benchmark our own strategies.

Another way we can continue to lead in human rights business practices is to go beyond compliance and focus on critical issues that impact our business. "Women Connect" is a U.S. State Department project managed by the Secretary of State's Office of Global Women's Issues. "Women Connect" is focused on women's empowerment and providing women living in small communities access to digital information, business resources, health services (including food and water) and education. The State Department believes this project can successfully create actionable, on-the-ground initiatives to increase access to mobile connectivity and services to women living on less than $2 per day. Through this project, Ford plans to provide technology to strengthen local capacities and expand best practices.

Diversity

We are committed to equal opportunity in all aspects of our business and to fostering diversity in our workforce. Our Policy Letter and related Directives address equal opportunity and require that there be no disparate treatment because of race, religion, color, age, sex, national origin, disability, gender identity, sexual orientation or veteran status, and/or other factors that may be covered by local law. We recognize that diversity in our workforce is a valuable asset, and we strive to provide an inclusive work environment in which different ideas, perspectives and beliefs are respected.

Bribery and Corruption

Our Policy Letters and Directives govern integrity within Ford and state that it is our policy to comply fully with the laws of each country in which we do business. Further, no employee may

Related Links

This Report:

- Code of Basic Working Conditions
- Supporting a Great Place to Work
- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Public Policy
- Ethical Business Practices
- Vehicle Safety and Driver-Assist Technologies
- Customer Satisfaction and Quality
- Workplace Health and Safety
- Case Study: Social Media Guidelines

Corporate.ford.com:

- Code of Conduct Handbook

agree to, make or solicit, for their benefit or that of the Company, any improper payments or other improper benefits, directly or indirectly, to or from any government or government agency official, legislator or other government employee or person purporting to represent government agencies. Employees and contract personnel must immediately report through the Company reporting system any requests or solicitations for an improper payment, except in countries where mandatory reporting is restricted.

Political Contributions

Ford's Policy Letter on governmental relationships covers issues relating to public policy and political contributions. These issues are discussed in depth in our Public Policy section.

Customer Satisfaction and Safety

Ford has several policy statements aimed at increasing the quality of our products and promoting the safety of our customers. Our Policy Letter on quality sets the foundation for a process that emphasizes the importance of quality in everything we do and notes that the customer defines quality. It establishes a Quality Operating System and the use of metrics and data to make decisions. Our Policy Letter on vehicle safety sets forth Ford's commitment to design and build vehicles that meet or exceed applicable laws and regulations, and to advance the state of the art in safety wherever practicable. We strive for continuous improvement in vehicle safety, which applies to accident avoidance attributes as well as occupant protection systems. This policy requires that we will be demonstrably active and responsible in all areas of automotive safety, including vehicle design and manufacture, operator behavior and the highway environment.

Environment and Employee Health and Safety

Our policies on health, safety and the environment make clear that sustainable economic development is important to the future welfare of Ford and society in general. Protection of employee health and safety and the environment are important considerations in the business decisions we make. These factors are integral parts of the planning process. Our products, services, processes and facilities are planned and operated to incorporate objectives and targets and are periodically reviewed to minimize to the extent practical the creation of waste, pollution and any adverse impact on employee health, safety or the environment. Protection of health, safety and the environment is a Company-wide responsibility of employees at all levels.

Privacy

The trust and confidence of our customers are important to Ford Motor Company and essential to building long-term relationships and delivering excellent products and personalized services. The Company recognizes that customers, employees and others have concerns about privacy and expect us to protect and handle personal information responsibly.

Ford is committed to implementing responsible privacy and data-handling practices. The Company's Policy Letters and related Directives are designed to ensure the continuing trust and confidence of individuals who entrust us with personal information.

Social Media Interactions

The recent proliferation of social media – such as Facebook, Twitter and LinkedIn, as well as blogs and other Web-based discussion forums – has led us to examine our policies relating to employees' use of these technologies. We encourage responsible employee participation in social media, and have developed "digital participation guidelines" for employees. (Guidelines provide guidance on how Policy Letters and Directives apply in a given area.) In addition, we have online training that helps employees understand how to adhere to these guidelines. For more, see the case study on social media.

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Code of Basic Working Conditions

This Code of Basic Working Conditions represents the commitment of Ford and its worldwide subsidiaries. The diverse group of men and women who work for Ford are our most important resource. In recognition of their contributions, we have developed policies and programs designed to ensure that our employees enjoy the protection afforded by the principles articulated today in this Code. While these principles are not new to Ford, they are vitally important to what we stand for as a company. Consequently, we have chosen to summarize them here in an expression of our global commitment.

While this Code of Conduct serves to detail, specifically, our standards for labor and environmental standards throughout our global operations, it also stands as a general endorsement of the following human rights frameworks and charters:

- The UN Universal Declaration of Human Rights
- The ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy
- OECD Guidelines for Multinational Enterprises
- The Global Sullivan Principles of Social Responsibility

The diverse universe in which Ford operates requires that a Code such as this be general in nature. In certain situations, local legal requirements, collective bargaining agreements and agreements freely entered into by employees may supersede portions of this Code. Nevertheless, we believe this Code affirms important, universal values that serve as the cornerstone of our relationship with employees.

Child Labor

We will not use child labor. In no event will we employ any person below the age of 15, unless this is part of a government-authorized job training or apprenticeship program that would clearly be beneficial to the persons participating.

Compensation

We will promote our employees' material well-being by providing compensation and benefits that are competitive and comply with applicable law.

Forced Labor

We will not use forced labor, regardless of its form. We will not tolerate physically abusive disciplinary practices.

Freedom of Association and Collective Bargaining

We recognize and respect our employees' right to associate freely and bargain collectively. We will work constructively with recognized representatives to promote the interests of our employees. In locations where employees are not represented by unions, we will seek to provide opportunities for employee concerns to be heard.

Harassment and Discrimination

We will not tolerate harassment or discrimination on the basis of sex, race, color, creed, religion, age, ethnic or national origin, marital/parental status, pregnancy, disability, sexual orientation or veteran status.

Health and Safety

We will provide and maintain for all employees a safe and healthy working environment that meets or exceeds applicable standards for occupational safety and health.

Work Hours

We will comply with applicable law regulating hours of work.

Community Engagement and Indigenous Populations

We shall consider indigenous peoples among our primary stakeholders in all projects we consider undertaking. We will openly and honestly engage all recognized members of our stakeholder

Related Links

External Websites:

- UN Universal Declaration of Human Rights
- ILO Tripartite Declaration of Principles
- OECD Guidelines for Multinational Enterprises
- Global Sullivan Principles of Social Responsibility

community who have an interest in our activities.

Bribery and Corruption

We will under no circumstances tolerate the giving or receiving of undue reward to influence the behavior of another individual, organization, politician or government body, so as to acquire a commercial advantage; this extends to all of our regional operations, regardless of whether bribery is officially tolerated and condoned by local custom.

Environment and Sustainability

We will conduct business in an environmentally friendly and responsible manner. We will seek to reduce and minimize the environmental impact of all of our operations in the short term, as we seek to become an environmentally restorative and truly sustainable company in the long term.

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Case Study: Social Media Guidelines

Ten years ago, Facebook, Twitter and YouTube hadn't yet been invented, and blogging was just beginning to gain popularity. Today, these and other social media outlets are ubiquitous in the daily lives of millions around the world, and are credited with everything from reconnecting long-lost friends to helping bring down dictators.

At Ford, we've worked to harness the power of social media to communicate better with our customers. A number of our recent product launches, for example, have utilized innovative social media campaigns. (See the Economy section for more on these.) And some of our employees – such as Sue Cischke, Ford's Group Vice President for Sustainability, Environment and Safety Engineering – publish blog posts periodically to reach out to consumers.

Of course, our employees are also using social media in less-official ways. They may be active on Facebook, Twitter, Flickr, LinkedIn or YouTube; have a personal blog; or take part in online discussion forums on topics of interest to them. Through all of these media, they may participate in discussions on issues related to Ford – perhaps about a particular vehicle or technology, or about aspects of their jobs.

Traditionally, companies like Ford have communicated to the public more formally with messages from the marketing or advertising departments. Having employees involved in social media is a much more open, personal and un-edited approach, which offers both risks and rewards. The risks are that employees will misrepresent the Company or its products, reveal confidential competitive information or behave in a way that is contrary to the firm's corporate values. The rewards, however, are that customers gain a more personal, "insider" view of the Company and ultimately feel more connected and loyal to it.

To help ensure that we minimize the risks and maximize the potential rewards, we have developed a set of "digital participation guidelines" for our employees. A version of the guidelines is available publicly. We also use online training to educate our nonmanufacturing workforce on the guidelines and how they affect their use of social media.

Completed in 2010, the guidelines encourage employees to use social media in a responsible way. They advise employees to be mindful that online communications require the same kind of ethical behavior and honesty that we expect in other external communications.

Specifically, the guidelines emphasize several key points. For example, if a discussion relates to Ford or the automotive industry, employees are expected to be honest about the fact they work for Ford. At the same time, employees need to make clear their opinions are their own and they are not official spokespeople for the Company. Conversations should remain respectful and in good taste, just as would be expected in any other medium. Employees should use good judgment in not revealing confidential Company information, including financial information. And finally, employees should always remember that whatever they say or write is there for ***all*** to see, permanently.

With these guidelines in place, we feel confident that our employees' online interactions will represent us well, and will only help to strengthen our already positive reputation and deepen our connections with customers.

Related Links

This Report:

- Building Customer Awareness: Social Media

External Websites:

- Ford's Social Media Guidelines

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Commitment to Human Rights and the UN Global Compact

In early 2008, Ford joined the United Nations Global Compact (UNGC), a framework for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, the environment and anti-corruption. This action reinforces our commitment to outstanding performance and transparency in these areas. We also actively participate by invitation in both the Human Rights and Supply Chain Sustainability Advisory Groups convened by the Global Compact. In addition, we have signed the UNGC's CEO Water Mandate and the CEO Statement of Support for the Women's Empowerment Principles.

This sustainability report serves as our annual Communication on Progress to the UNGC. Please see the UNGC index for a guide to where the principles are addressed in this report.

The 10 Principles of the U.N. Global Compact

Human Rights

- **Principle 1**: Businesses should support and respect the protection of internationally proclaimed human rights; and
- **Principle 2**: make sure that they are not complicit in human rights abuses.

Labor Standards

- **Principle 3**: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- **Principle 4**: the elimination of all forms of forced and compulsory labor;
- **Principle 5**: the effective abolition of child labor; and
- **Principle 6**: the elimination of discrimination in respect of employment and occupation.

Environment

- **Principle 7**: Businesses should support a precautionary approach to environmental challenges;
- **Principle 8**: undertake initiatives to promote greater environmental responsibility; and
- **Principle 9**: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

- **Principle 10**: Businesses should work against corruption in all its forms, including extortion and bribery.

Related Links

This Report:

- Supporting a Great Place to Work
- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Policy Letters and Directives

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Ethical Business Practices

Our Corporate Compliance Office has a comprehensive program in place to guide compliance with Ford Policy Letters and Directives as well as key legal requirements. The Corporate Compliance Office is part of Ford's Office of the General Counsel. Our compliance program is overseen by a senior management compliance committee and the Audit Committee of the Board of Directors. The compliance program includes a variety of activities. The program raises awareness of the Company's commitment to ethical practices, defines corporate practices through Policy Letters and Directives, ensures an infrastructure that allows for the reporting of Policy violations or business-related legal violations through a number of avenues worldwide, oversees the investigation of such reports, conducts risk assessments, and provides training and education on key legal and ethical risk areas.

Our Policy Letters and Directives formally establish expectations for our employees and others working on behalf of the Company, and our Code of Conduct Handbook is the fundamental tool for communicating these expectations.

The Code of Conduct Handbook, our chief ethical guidance document, is a compilation of the most important and relevant Policy Letters, Directives and standards for Ford employees. It is available in 14 languages. The online version, available to Company personnel, includes active links to the original source documents, thus providing a single source for the relevant information. The Code of Conduct Handbook underwent a major revision in 2007 to make it easier to understand and use as a reference manual.

The Handbook outlines requirements for our employees and those working on behalf of the Company and provides background resources for a wide range of business-related situations, including:

- The workplace environment
- Gifts, favors and conflicts of interest
- Use of Company assets and data safeguarding
- Integrity of financial records
- Product quality, safety and environmental matters
- Intellectual property
- Working with governments (political activities)
- Competition and antitrust laws
- International business practices

All salaried employees and most contract personnel around the world are required to certify that they have reviewed the new Handbook.

To reinforce information contained in the Code of Conduct Handbook, we introduced a new mandatory online training course in 2009 for our global employees and other targeted personnel. The course focuses on ethics, conflicts of interest, gifts and favors – topics on which we have long provided employee training – as well as touching on additional issues that have global applicability. In the 12 months since the new online training was introduced in May 2009, more than 82,000 individuals, approximately 90 percent of those invited, completed the new training course.

In furtherance of our commitment to business ethics and compliance, every year we roll out new mandatory online compliance training on important risk areas. Not only do these courses increase awareness, they also help our employees worldwide understand and access resources that enable responsible behavior and enhance regulatory compliance. Recent courses covered the topics of social media, mutual respect, and health and safety.

Another component of our compliance program is an infrastructure that encourages and allows for the reporting of any potential violations of our Policy Letters and Directives, and any violations of laws related to the business. Our non-manufacturing workforce and contract personnel are regularly reminded of their responsibility to report any known or suspected violation of the law or a Company Policy Letter. There are many ways for individuals to report such violations, including direct communications to a member of one of the control groups – such as the General Auditors' Office or the Office of the General Counsel – as well as telephone tip lines and email. All of our plants have posters describing how our manufacturing workforce can centrally report.

We assess compliance with our ethical standards through regular legal audits that cover a range of topics relating to legal requirements and internal policies. These are in addition to audits regularly conducted by other parts of the Company on issues such as workplace health and safety.

Related Links

This Report:

- Policy Letters and Directives

Corporate.ford.com:

- Code of Conduct Handbook

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Reporting and Transparency

External reporting is a fundamental element of accountability. Sustainability reporting not only demonstrates transparency but, in our view, is the basis of organizational learning, demonstrates our values, and both reflects and drives outstanding economic, environmental and social performance. The following are central elements of our reporting strategy.

Materiality

Over the last several years, Ford has sought to increase the materiality and responsiveness to stakeholders of its sustainability reporting. A key part of our reporting strategy has been the development of a materiality analysis process, which has been a critical tool in helping shape the content of this report. The analysis is updated every other year, most recently in early 2011 for this report. We use the analysis to focus our reporting on those issues determined to be most material to the Company over a three- to five-year time horizon. Our coverage of these issues is found in the Material Issues section of this report. Other sections of the report provide information on a broad range of sustainability issues of importance to Ford and our stakeholders, including detailed performance data, case studies, stakeholder interviews and other supporting information.

Assurance

Please see the Assurance section for discussion of our approach to third-party review of this report and data assurance.

External Guidelines

This report is aligned with the Global Reporting Initiative (GRI) G3 Guidelines at the self-checked A application level. Ford has supported and participated in the development of the GRI Guidelines since their inception.

This report also serves to disclose how we are implementing the United Nations Global Compact (UNGC). An index cross-referencing the Compact and relevant sections of this report can be found on the UNGC Index page.

Targeted Reporting

Linked with our efforts to increase the materiality of our reporting, Ford has also taken steps to produce more targeted audience-, location- and subject-specific sustainability communications.

Also, several Ford facilities, brands and country operations produce their own reports detailing the sustainability issues they face within their particular regions or operations. Several of our country operations, such as Ford China, and local facilities produce public reports. We have also provided input to the Ceres Facility Reporting Project.

Benchmarking and External Feedback

Ford seeks formal and informal feedback on our Sustainability Report from a number of organizations with expertise in reporting, in addition to the Ceres Stakeholder Review Committee. Other feedback we received can be found in Downloads.

Ford's 2009/10 Sustainability Report was a finalist in the 2010 Ceres/Association of Chartered Certified Accountants (ACCA) North American Awards for Sustainability Reporting. The report was recognized for its identification of the material sustainability issues affecting the Company and its disclosure of the greenhouse gas emissions of our fleet, among other features. (See www.ceres.org.) Our 2008/9 report took second place in this award in 2009, and our 2007/8 report was the co-winner in 2008. Our 2004/5 report placed in the top five.

Related Links

This Report:

- Material Issues
- Assurance
- GRI Index
- UNGC Index
- Downloads

External Websites:

- Global Reporting Initiative
- United Nations Global Compact
- Ceres

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Sustainability Governance and Integration

Our goal is to fully integrate sustainability issues into our core business structures and processes, rather than manage them separately. As we build capacity in this area and move toward that goal, however, we recognize that it is also important to establish some sustainability-specific structures and processes.

Structures for Managing Sustainability

The following are the primary structures we use to manage and embed accountability for sustainability within Ford.

- **Board and Executive-Level Responsibility**: Ford's governance of sustainability issues builds on a strong foundation of Board of Director and senior management accountability for the Company's environmental, social and economic performance. At the Board level, the Sustainability Committee has primary responsibility for reviewing strategic sustainability issues, though some of those issues are also addressed in other committees and by the Board as a whole. Within management, the Group Vice President of Sustainability, Environment and Safety Engineering has primary responsibility for sustainability issues and oversees the Sustainable Business Strategies, Environmental Policy, and Safety groups, as well as having dotted-line oversight over the Sustainable Mobility Technology group (which is formally part of the Product Development function).
- **Dedicated Sustainability Function**: Ford's Sustainability & Environmental Vehicle Matters office coordinates corporate-wide sustainability strategy and activities, including leading the Company's corporate-level sustainability reporting and stakeholder engagement and integrating sustainability throughout the Company.
- **Integration into Core Functions**: Numerous functions within the Company have responsibility for some or multiple aspects of sustainability. For example, the Workplace Health and Safety Office, the Environmental Quality Office and the Human Resources Department each manage specific issues that fall under the umbrella of sustainability. As Ford works to embed sustainability more deeply across all functions, groups such as Product Development, Purchasing, Manufacturing and Land are taking on an increasing role in the Company's sustainability efforts. For example, Product Development is taking the lead on the Company's sustainable mobility efforts; Global Purchasing is managing sustainability issues in the supply chain, including assessment and training programs associated with our Code of Basic Working Conditions; and Ford Land and Manufacturing personnel are implementing energy efficiency and water reduction efforts in our buildings and plant facilities. In addition, our Marketing function is involved via the "Go Green" Dealership Sustainability Program; our Information Technology group is implementing a PC power management program to help us decrease energy consumption; and our Communications department has helped us transition to the use of office paper with post-consumer recycled content.
- **Issue-Specific Structures**: Ford has also developed structures to address specific global sustainability issues facing the Company. For example, we have established a Sustainable Mobility Governance Forum – a senior-level team led by the Group Vice President of Sustainability, Environment and Safety Engineering – responsible for defining our climate change strategy and delivering our sustainability strategy in the marketplace. The Group's strategic direction is provided by a senior executive forum, including Vice President and executive stakeholders, which guides the development of the vision, policy and business goals.

Key Process for Integrating Sustainability

We believe that integrating sustainability considerations into our existing systems and processes – rather than creating new systems and processes – is the most effective way to embed sustainability into our business. The following are some examples of how we are doing this.

- **Business Plan Development, Business Plan Review and Compensation**: As part of the annual business planning process, Ford's business units develop scorecards to track their performance. Metrics from these scorecards are part of the performance assessment of managers at various levels of the Company and affect their compensation. Executive compensation is affected by the Company's performance in a range of areas, including sustainability. Sustainability issues are a formal part of Ford's weekly Business Plan Review (BPR) meetings, one of the key management processes used within the Company. At these regular, frequent meetings, convened by Ford's CEO, members of the Company's top leadership team review sales, financial, manufacturing and other information to help them manage global operations and identify issues that are critical to the future of the Company. Each unit also provides an update on performance relative to their individual scorecards. To help us manage corporate-wide sustainability issues, Ford has developed a sustainability

Related Links

This Report:

- Letter from Sue Cischke
- Governance and Management Structures
- Code of Basic Working Conditions
- Policy Letters and Directives
- Sustainability Management

Corporate.ford.com:

- Corporate Governance
- Board of Directors
- Corporate Governance Policies

External Websites:

- ISO 14001

scorecard, which is reviewed alongside other units' scorecards at the BPR meetings. Also, functions including Manufacturing, Product Development and Purchasing have integrated sustainability-specific indicators into their overall scorecards.

- **Special Attention Review and Automotive Strategy Meetings**: Ford's CEO also convenes regular Special Attention Review and Automotive Strategy meetings to look in depth at issues identified as potential concerns on any unit's scorecard. Sustainability issues have been covered at these meetings, including, in 2010, global energy trends, U.S. energy security, industry developments and Ford's electrification strategy.

- **Corporate Policy Letters and Directives**: Ford maintains a comprehensive set of Policy Letters, Directives and other corporate standards that govern all Company activities. Several of these relate to aspects of sustainability. For example, in 2003 Ford adopted a Code of Basic Working Conditions, the implementation of which is supported by a robust assessment and training process. The Code of Basic Working Conditions was updated in 2006, and in 2007 it was approved and formally adopted as a corporate Policy Letter #24.

- **Management Systems**: Ford uses a variety of systems and processes to manage the different aspects of our business, several of which govern or incorporate sustainability issues. For example, all Ford manufacturing facilities and our Product Development function are certified to ISO 14001, the leading global system standard for managing environmental issues. We have also asked our preferred "Q1" suppliers of production parts to certify their facilities to ISO 14001. In another example, Ford's Purchasing function has integrated assessments of working conditions into its broader process for evaluating suppliers on issues such as quality, cost and delivery (see our new Supply Chain section for more).

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Sustainability Management

This section describes our systems for managing sustainability within two of our major business functions – Product Development and Manufacturing. (Our systems for supply chain management, which have been addressed in this section in previous reports, are discussed in the new Supply Chain section this year.). This section also discusses our approach to U.S. public policy issues.

Stakeholder engagement is also vital to our ability to serve our customers and the local and global communities in which we operate. Our stakeholder engagement activities are detailed in the Society section of this report.

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Product Development

The development of our new products starts with an understanding of the consumer: who they are, how they live and what they want in a vehicle. Next, comes the identification of advanced technologies and breakthrough ideas by our Research Labs and our Advanced Product Strategy, Advanced Marketing and Advanced Design groups. These and other groups work within an annual planning process to assess the latest developments in technologies and consumer trends to identify the best new technologies and anticipate the needs and desires of the marketplace. Our product cycle plan defines timing for new or updated vehicles, and the associated technology applications. Product development engineers, designers and product marketing teams work together to finalize a vehicle concept. Once the business case is approved, our vehicle programs are brought to market using our Global Product Development System, or GPDS.

The GPDS, launched in 2005, merges the best product-creation methods from all of Ford Motor Company's global operations and is refreshed continually with the latest lessons learned as we develop new products. The GPDS provides a common set of milestones and metrics for the development of all vehicle programs across our regional business groups, which increases efficiency and quality. As a part of this system, we require all vehicles to meet specific competitive and performance targets at every milestone along the product's development path. These targets consider a wide range of environmental performance criteria, such as fuel economy, recycled materials and substances of concern. For example, our product CO_2 emission reduction goal, coupled with a commitment to class-leading fuel economy, has been translated into fuel economy targets for each new vehicle.

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- Sustainability Management
  - Product Development
  - Manufacturing
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Manufacturing

The Ford Production System (FPS) is a continuously improving, lean, flexible and disciplined common global production system that encompasses a set of principles and processes to drive a lean manufacturing environment. Key elements of the system include effective work groups, zero waste/zero defects, aligning global capacity with global market demand, optimizing production throughput and using total cost to drive performance.

Each principle has a set of guidelines, or "measurables," that help us to meet or exceed objectives. The measurables are deployed and tracked for every manufacturing location using the SQDCMME Scorecard, which keeps focus on the vital components of a sustainable business: Safety, Quality, Delivery, Cost, Morale, Maintenance, and Environment. For example, each manufacturing location has specific environmental targets.

Many processes have been put into place to support the FPS and the Scorecard, including SQDCMME metrics, internal process confirmations and FPS Best Practices. The Scorecard is reviewed regularly by management, and progress against SQDCMME targets is a factor in the performance reviews of all managers in the manufacturing chain of command, from site-level managers to Ford's CEO. Each Manufacturing employee has an annual performance review that is based on objectives that are derived from the Scorecard. Manufacturing's Scorecard objectives are cascaded through each organization down to the plant-floor-level employee at the beginning of each year, to create alignment on objectives and measures of performance throughout the Manufacturing organization.

Manufacturing is integrated with Product Development in the Global Product Development System (GPDS). Beginning early in a program, the GPDS includes deliverables for Manufacturing that drive a consistent and reliable process through the implementation of such requirements as efficient die construction practices, standard and current bill of process, manufacturing design specifications, modularity and complexity. The standard bill of process allows us to confirm that our operations include all of our global best practices, as well as effective failure mode avoidance and successful process quality control. Manufacturing Engineering utilizes computer-aided, or "virtual," design for manufacturing, which is aligned with the GPDS milestones, to improve the efficiency and quality of vehicle assembly.

Manufacturing works within the Global Quality Operating System (QOS) to develop, measure and continuously improve robust processes. This work starts early in the product development cycle to ensure that our manufacturing facilities are able to achieve the metrics outlined on the Scorecard. By following the disciplined processes and deliverables of the GPDS, the FPS and the QOS, we are able to continue defect prevention and reduce "things gone wrong" and warranty spending using global design rules and the manufacturing standard bill of process.

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Public Policy

Every day, government officials around the world make decisions that impact Ford. As a global automotive company, it is important that we have a voice in policies that affect our business in the countries in which we operate, and that Ford be recognized as a credible, leading source of information as those policies are formulated. Across a range of issues – including manufacturing, climate change, energy security, health care reform, human rights, trade, education and vehicle safety, among others – we strive to shape policies that are economically, environmentally and socially sustainable for Ford and for the world. Informed policy makes for better policy, whether at the international, national, regional, state or local level.

In this section, we have expanded our reporting this year in response to stakeholder feedback. We're including more detail on Ford's approach to public policy participation and our positions on key U.S. policy issues. In the future we will consider expanding even further to address our positions on policy issues of importance in other regions of the world. (The Ford policies discussed in this section are outlined in our Code of Conduct Handbook, which applies to Ford globally.)

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Participation in the Policy-Making Process

Ford seeks to be an active participant in the political process in a manner that is transparent and related to our business interests. On issues of highest priority for us, we stay in regular contact with legislators and regulatory officials in our major markets, to share with them our interests and perspectives and offer expert input into the policy-making process. Our Government Affairs office oversees these lobbying activities.

Membership in Coalitions and Associations

Ford belongs to a broad range of partnerships and coalitions, as well as industry and trade associations (such as the Alliance of Automobile Manufacturers), that lobby in the legislative and regulatory realms on behalf of their members. Working with others in these types of organizations enables Ford to better leverage our resources on issues of importance to us and to develop and promote policies that have potentially far-reaching benefits for industry and society.

Of course, we do not always agree with each and every position taken by these organizations. In cases where we don't agree, we have to determine if, on balance, we agree with enough of the organization's positions that we should continue to engage with them. And, we always reserve the right to speak with our own voice and make our own positions clear, even when they may not align with the positions of associations to which we belong.

Ford Policy on Political Contributions

Ford Motor Company does not make contributions to political candidates or political organizations nor otherwise employ Company resources for the purpose of helping elect candidates to public office, even when permitted by law. Nor do we take positions for partisan political purposes – that is, specifically for the purpose of advancing the interest of a political party or candidate for public office. These policies remain unchanged, notwithstanding the U.S. Supreme Court's January 2010 decision that loosened restrictions on corporate independent expenditures.

With proper executive approval, Ford may contribute to support or oppose a U.S. state or local ballot proposal, if such contributions are permitted by law and if the issue is of significant interest or importance to the Company. Information with respect to contributions made in connection with ballot questions and referenda is publicly available through the appropriate local or state reporting authorities.

We do encourage employees to participate in political and governmental affairs and recognize that Company efforts and programs to encourage employee participation must respect fully the right of employees to use personal time as they choose and decide the extent and direction of their political activities. The Ford Motor Company Civic Action Fund (the "Ford PAC"), which is supported by voluntary donations from Ford employees, gives campaign contributions to national, state and local political candidates from both major political parties in the United States. The Company pays the solicitation and administrative expenses of the Fund, which are minimal, as permitted by law. All contributions made to the Ford PAC and all distributions from the Ford PAC are in compliance with Federal Election Commission (FEC) and applicable state regulations. A list of the Ford PAC's contributions made during 2010 can be found at the FEC website.

Decisions about political contributions by the Ford PAC are made by Ford's Governmental Affairs office, in accordance with business objectives that support our competitiveness in the global automotive industry. Ford PAC contributions are used to support issues directly related to manufacturing and Ford business objectives. All Ford PAC candidate contributions in excess of $3,000 must be approved by the Ford PAC Political Contributions Committee, an eight-member, cross-functional group of Ford employees representing a range of organizational levels.

Ford complies fully with all laws and rules governing our employees' interactions with officials at all levels of government (federal, state and local). Furthermore, all of our contact and dealings with government officials must not only comply with all applicable laws, but also with our global corporate Policies and Code of Conduct. Note that under federal law, foreign nationals are prohibited from making contributions in connection with any U.S. election and are thus not eligible to join the Ford PAC.

Related Links

Corporate.ford.com:
- Code of Conduct Handbook

External Websites:
- Alliance of Automobile Manufacturers
- Federal Election Commission

Public Policy Positions

This section summarizes Ford's positions on key public policy issues currently under discussion in the U.S.

The one important topic not addressed here is climate change policy; see the Climate Change section for a discussion of that issue. That section also addresses policy issues relating to mid-level ethanol blends and upstream emissions associated with vehicle electrification.

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Sustainable Raw Materials

Recently, public awareness has grown around sustainability concerns associated with certain raw materials. So-called "conflict minerals" are one serious concern; these include tantalum, tin, tungsten and gold mined in the Democratic Republic of the Congo and nine bordering countries. Profits from mining activities in these areas are being used to fund armed conflict in the region. Another area of concern is "rare earth elements" (REEs) – a suite of mined materials that are widely used in consumer and automotive electronics. China currently produces 95 percent of the world's supply of REEs, and concerns have been raised about the future availability of these materials as well as sustainability aspects related to their mining.

In the U.S., the financial regulatory reform bill passed by Congress in 2010 included a provision relating to conflict minerals. This provision requires many manufacturers to report to the Securities and Exchange Commission (SEC) annually on whether their products contain metals derived from certain conflict minerals and if those metals are necessary for the functionality and production of their products.

Ford is well positioned to begin work on the issue of conflict minerals in the supply chain. We have an established mechanism for engagement with our suppliers on the topic of policy and management systems through our strategic supplier framework, the Aligned Business Framework, in addition to full integration of explicit human rights terms in all of our contracts with suppliers.

Ford has worked with companies such as Microsoft, GE and Hewlett Packard as well as investors like the Interfaith Center on Corporate Responsibility and NGOs to issue multi-stakeholder comments on the regulations, in particular on substantive issues regarding implementation. Representatives from Ford also met with the SEC to discuss issues relating to procedure and implementation within the automotive supply chain. Finally, in March 2011 we issued a formal comment letter stating our position.

We remain active on this issue in other venues as well. For instance, we are piloting the implementation phase of the Organisation for Economic Co-operation and Development's Framework for Due Diligence regarding conflict minerals.

Regarding rare earth elements, legislation is pending in Congress that would encourage domestic production of REEs. Ford has provided information and support to the relevant U.S. House committee on this issue via the American Automotive Policy Council, to educate committee staff on the industry's interests and positions on REEs.

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Non-CO_2 Tailpipe Emissions

In the U.S., the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate smog-forming tailpipe emissions, including hydrocarbons, nitrogen oxides,

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- Climate Change Policy and Partnerships
- Sustainable Raw Materials
- Non-CO_2 Tailpipe Emissions
- Eliminating Undesirable Materials
- Steps to Reduce Health Care Costs
- Vehicle Safety and Driver-Assist Technologies
- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Investing in Communities
- Electrification: A Closer Look

External Websites:

- U.S. Securities and Exchange Commission
- U.S. Environmental Protection Agency
- California Air Resources Board
- U.S. Department of Energy
- President's Export Council
- United Nations Global Compact
- Society of Automotive Engineers

carbon monoxide and particulate matter. Both the EPA and California are in the process of developing the next generation of emissions standards ("Tier 3" and "Low Emission Vehicle III," respectively). CARB is also in the process of revising its future Zero Emission Vehicle regulations, with the intent of integrating them into its programs for smog-forming and greenhouse gas emissions.

We are working with the agencies through their regulatory processes to help develop rules that are both effective and feasible. In setting tailpipe emission regulations, consideration of other vehicle rules such as fuel economy/greenhouse gas standards and safety standards must be taken into account to ensure that the total package of requirements is workable.

Ford continues to oppose technology mandates that seek to impose quotas or limits on the production or sale of vehicles with specified powertrain technologies. Regulatory efforts to dictate market outcomes, or to pick technology "winners" and "losers," have never produced a successful outcome. Manufacturers need the flexibility to build the kinds of vehicles that the marketplace demands based on consumer preferences and other external factors. Emissions standards should be performance-based and should be designed to enable manufacturers to introduce vehicles with an array of different technologies.

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Undesirable Chemicals

The European Union's REACH program (Registration, Evaluation, Authorization, and restriction of Chemicals) regulates and seeks to phase out chemicals of concern. More and more countries are adopting similar regulations. Turkey and Romania adopted their own versions of REACH in 2009; China adopted its own version in October 2010. South Korea and Japan will soon adopt REACH-like regulations to manage their chemicals. In the U.S., the U.S. Senate and House both proposed bills in 2010 to overhaul the Toxic Substances Control Act. The state of California is planning to promulgate regulations implementing a "green chemistry" law in 2011. In January 2009, the United Nations implemented regulations requiring a globally harmonized system of classification and labeling of chemicals.

We believe that regulatory requirements for the phase-out of undesirable chemicals need to be prioritized and implemented in a workable manner. Government and industry resource constraints mean that not all chemicals of concern can be addressed at once. Moreover, manufacturers and suppliers need adequate lead-time to identify replacement substances that are more environmentally friendly than the ones they replace, and also to design and engineer components that incorporate these new substances. Ford will continue to work with regulatory agencies to help develop rules that target the highest-priority chemicals first, and that drive steady progress toward the elimination of chemicals of concern in an effective and efficient manner.

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Manufacturing Policy

Manufacturing is essential to local, regional and national economies. Manufacturing provides jobs and tax revenue, creates new products and technologies and promotes overall prosperity. When factories are closed, jobs are lost and the tax revenues that support hospitals, social services, local schools and public universities are reduced.

About 70 percent of all the research and development investment in the U.S. comes from manufacturing. We believe that a strong manufacturing base – with its attendant focus on engineering, science and technology innovations – is important not only for national prosperity but for energy independence, energy security, national defense and sustainability.

A strong manufacturing policy is needed in the U.S.. The government should implement policies that:

- Create a framework that allows companies to compete fairly and freely
- Encourage research and development and investment in the future
- Allow access to competitive capital and create a stable, predictable and globally competitive regulatory environment and tax regime
- Leverage the power of free enterprise and American ingenuity to create growth and prosperity

The Department of Energy's (DOE) Advanced Technology Vehicle Manufacturing Incentive Program is a great example of how successful government–industry partnerships can work to achieve public policy goals. The program provides access to competitive capital while leveraging American ingenuity to invest in the production of more fuel-efficient vehicles. This program was authorized in 2007 and funded in 2008, and Ford is one of the recipients of these competitively awarded green loans.

Strong free trade policies – enabling market access and prohibiting currency manipulation – also must be part of this equation. At Ford, we believe an export-driven strategy is critical to achieving our shared goals of economic growth, job creation and a sustainable future. That's why Ford President and CEO Alan Mulally is proud to serve as a member of the President's Export Council. Also important are education policies that help to foster a skilled U.S. workforce. These types of policies are discussed later in this section.

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Health Care Reform

In the U.S., national health care reform was the topic of intensive Congressional and public debate, culminating in the passage of national health care legislation in March 2010. We are encouraged that the new law includes provisions that are aligned with the three key areas (listed below) that we believe must be addressed in order to maximize the value of health care service (a combination of quality, appropriateness and costs).

- **Wellness and Prevention** – As a country, we must focus on wellness and prevention, and make sure that employers can offer creative incentives that work to engage people in healthy behaviors.
- **Health Information Technology** – We need a national technology infrastructure that allows the consolidation of a patient's medical records, so that the most appropriate care is given wherever treatment is provided. To accomplish this, we need electronic medical records at every doctor's office and hospital, and they all need to be connected. We also need tools to improve the accuracy and safety of prescription drug dispensing, such as electronic prescribing.
- **Understanding What Works** – By studying the cost and quality of health care and its effect on health status, we can deliver more effective care. New innovations in technology and drugs are key drivers of cost increases. Therefore, before new innovations are widely implemented, they must be compared to the standard practice to really know whether and how much additional value they bring.

For more on this topic, see the Economy section.

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Vehicle Safety

At Ford, safety is one of the key principles that inform and guide our every design and engineering effort. We are committed to continuous improvement in vehicle safety; we are also actively involved in driver education and efforts to promote safer roadways. Ford will continue working with governments and the public to help further reduce auto accident and fatality rates, which reached historic lows in 2009.

Part of this commitment to safety is Ford's open and transparent approach to quickly addressing customer questions and vehicle safety issues. Ford supports the Transportation Recall Enhancement, Accountability and Documentation (TREAD) Act, which opened even more transparency and information sharing between the government and the auto industry.

Ford believes driver distraction is a serious issue, which is why we were the first automaker to support legislation for a national ban on handheld texting while driving. Reflecting this public position, Ford recently clarified its employee policy to explicitly ban all handheld usage of electronics while driving. This is aligned with research showing that manually operating electronic devices that can divert drivers' eyes from the road (not merely talking on cell phones) substantially increases crash risk. We also support a more rapid transition to voice-controlled technologies, such as SYNC, that this same research shows can help reduce this risk.

Ford is a leader in the cooperative effort with governments and automakers globally to develop intelligent vehicles that in the future could "talk" to each other through advanced Wi-Fi technologies, to help reduce crashes and traffic congestion. Ford is aggressively accelerating its commitment to intelligent vehicles – known as vehicle-to-vehicle communications – becoming the first automaker to build prototype vehicles for demonstrations across the United States, doubling its intelligent vehicle investment in 2011 and dedicating even more scientists to developing this technology. We also support efforts to harmonize technology standards around the world to help deliver the technology as quickly and affordably as possible.

Ford strongly supports maximum graduated driver licensing (GDL) in North America as a means of achieving reductions in crashes, injuries and fatalities by new teenage drivers. GDL is a system designed to delay full licensing while allowing beginners to obtain initial experience under lower-risk conditions. There are three basic stages to GDL: a minimum supervised learner's period; an intermediate license (once the driving test is passed) that limits unsupervised driving in high-risk situations; and a full-privilege driver license upon completion of the first two stages. The Company encourages all states to adopt maximum GDL programs and urges all driver license programs to incorporate maximum GDL requirements, including information on safety belt use and impaired driving. Ford complements GDLs with its Driving Skills for Life teen safe driving program and MyKey® technology that helps parents encourage their teens to drive more safely. MyKey features programmable speed and audio volume limits and a "no belts, no tunes" feature to encourage the use of seat belts, which are still the number-one lifesaving device.

Finally, Ford supports the enforcement of existing laws relating to driving under the influence (DUI) of alcohol and drugs, as well as the use of alcohol ignition interlocks (sometimes called "alcolocks") for DUI offenders.

See the Vehicle Safety and Driver-Assist Technologies section for more on our vehicle safety technologies and activities.

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Human Rights

Ford is committed to respecting human rights everywhere we operate, because it's the right thing to do and it strengthens our business in the long run. We are a leader in addressing human rights and working conditions in the auto industry.

In 2008, Ford joined the United Nations Global Compact, a framework for businesses committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, the environment and anti-corruption.

And for several years, Ford has worked with leaders of the U.S. Department of State's human rights programs and the U.S. Department of Labor to explore how to encourage multinational companies to act as a positive force in protecting human rights in global trade, both through work in their own supply chains and through advocacy. We have also consulted with these agencies on how the U.S. government can encourage the protection of human rights through its purchasing practices.

At present, several U.S. states (including California, Ohio, Texas and Hawaii) are considering bills to prevent human trafficking. And, the U.S. House of Representatives is conducting a special subcommittee review on women's rights. Ford supports the underlying goals of human rights legislation, and where appropriate, Ford is participating in sector-specific initiatives and with international organizations to systematically evaluate supply chains to determine the most effective measures to combat human rights violations.

For more on our commitment to human rights, see Human Rights in the Supply Chain.

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International Trade

As a global automaker, Ford has a strong interest in issues relating to international trade. With manufacturing facilities in 21 countries, sales in almost 90 countries and a global supply chain that moves parts worldwide, we are a strong supporter of trade liberalization. In fact, free trade is foundational to our business model.

Ford has supported every free trade agreement (FTA) ratified by the U.S. government since the United States first began free trade negotiations in the mid-1960s. We support pending agreements with Panama and Colombia, and applaud the outlines of the revised U.S.-Korea Free Trade Agreement that were announced in December 2010. We also support the negotiation of a comprehensive, high-standard and commercially meaningful trade agreement with the Trans-Pacific Partnership countries.

Beyond the current FTA debate, we believe a new approach to trade is required that puts U.S. manufacturing at the forefront. Given the importance of manufacturing to the U.S. economy, Ford supports a manufacturing-driven trade strategy that:

- Drives innovation and delivers economic opportunity to its citizenry by maintaining a vibrant manufacturing sector as its cornerstone
- Enables U.S. manufacturing to compete on a level playing field against the best competition from around the globe

Finally, we believe the elimination of trade-distorting policies such as currency intervention and manipulation must be considered a key component of any trade initiative. Currency manipulation provides foreign automakers with an export subsidy of several thousand dollars per vehicle, while at the same time acting as the ultimate nontariff barrier, protecting their market from imports. Ford believes the market should set currency exchange rates – not governments.

Massive intervention by the Japanese government in 2003 and 2004 to weaken the value of the yen vis-à-vis the dollar helped to fuel one of the largest bilateral trade deficits in U.S. history. The Japanese intervened again in 2010. The Korean government, having benefitted from exports driven by a weakened Korean currency over the past year, is now also engaging in currency manipulation to support export industries. Korea must end this unfair and disruptive trade practice.

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Education

Ford understands that global competitiveness depends on the ability of our K-12 educational systems and post-secondary institutions to prepare a 21st century workforce. With baby boomers beginning to retire in large numbers, and many high-skilled jobs going unfilled, improving the quality and performance of our schools has become an urgent issue facing communities large and small across the country. Within these communities, too many students are disconnected and unsuccessful in schools that struggle to be as engaging and relevant as they need to be. Add to that the considerable anxiety being generated by an economy in transition – from industrial- to knowledge-based – and education emerges as a critical factor in securing financial health and

prosperity for individuals, communities and the nation.

Ford recognizes the importance of these issues and supports public policies and initiatives that are designed to mobilize educators, employers and community leaders to bring communities together to transform the entire educational system. These programs provide students with real-world learning opportunities that help them:

- Develop essential higher-order skills, such as: critical thinking, problem solving, communication, innovation and creativity
- Make connections between the academic subjects taught in the classroom and their application in the real world
- Make meaningful connections to higher education
- Build more sustainable communities by involving local business and community organizations to create service-based academic projects that make learning more applicable to real-world situations and positively impact the community

By helping communities address this most critical challenge, Ford continues its long tradition of leading and supporting educational initiatives that empower students, strengthen communities, and benefit the American economy. See the Investing in Communities section for more information on the programs we support.

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Electrification

We stand at an exciting moment in automotive history – the introduction and growth of hybrids, plug-in hybrids and pure battery electric vehicles. As these advance technology vehicles emerge onto our highways and roads, manufacturers must work together, and with governments as appropriate, to set standards for certain technical aspects of these new vehicles, to enable the market for them to proceed forward smoothly.

Consider, for example: When we go to a gas station, we take for granted that the pump nozzle is a size that will work with our vehicle. Early on, a standard size and configuration had to be developed and agreed to across all automobile and gasoline pump manufacturers, so that drivers could have a hassle-free experience when they went to fill up. As demand for and availability of plug-in electric vehicles continues to rise, it's similarly important that consistent standards be put in place regarding the technical aspects of these vehicles.

In North America, the Society of Automotive Engineers, with Ford's participation, successfully aligned all original equipment manufacturers (OEMs) on a standard charge connector and communication protocol that will enable all plug-in vehicles to use common charge points. This will be a key enabler for adoption in North America; the same connector is under consideration in Europe and China. Further standardization initiatives that will be helpful include fast-charge standards (for DC charging) and vehicle-to-grid standards. Global commonality for these systems will also be needed. Ford is also working with other OEMs and suppliers to provide a common database of charge point locations for display within vehicles' navigation systems. In addition, Ford and the industry are working collaboratively with the Obama administration and the U.S. Congress to address the challenges associated with the widespread deployment and commercialization of electric-drive vehicles.

See our Electrification case study for more information about our collaborative approach to encouraging the development of electric vehicles.

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Ford Motor Company's impact on the U.S. and global economies is broad and diverse. Our success as a company directly affects millions of people, including employees, retirees, dealers, investors and suppliers. We also have indirect economic impact on the hundreds of communities in which we operate worldwide.

To sustain our Company, meet our responsibilities and contribute to tackling global sustainability issues, we are continuing to implement our restructuring plan, aligning all of our global operations to focus on four key priorities:

- Aggressively restructure to operate profitably at the current demand and changing model mix
- Accelerate the development of new products our customers want and value
- Finance our plan and improve our balance sheet
- Work together effectively as one team

This section first briefly discusses the current business environment, our recent economic progress and our materiality analysis. The bulk of the section then addresses our financial recovery plan, including our progress in implementing the above four priorities. (Note that the risks and competitive factors discussed in our Annual Report on Form 10-K and Form 8-K may affect the implementation of these plans). The section also includes information on shareholder relations and Ford Motor Credit Company, as well as two case studies: one on our development of additional plants in Asia, and one on the economic impacts of the auto industry.

Assessing Materiality

The updated materiality analysis used to shape this report confirmed that the Company and stakeholders alike have a high level of concern about Ford's financial condition.

Within this broad topic, there was less focus on issues of managing downsizing and the potential bankruptcy of competitors or suppliers than in 2008/9, when a materiality analysis was last undertaken. Health care costs, legacy costs and access to capital also declined in importance, likely because of actions Ford has taken to manage these issues. Issues of cost and risk management and product competitiveness remained at the highest level of importance to the Company and stakeholders. "Product competitiveness" encompasses Ford's strategy related to products and sales, including product mix, market share and meeting customer demands for more fuel-efficient products, among other issues.

Vehicle quality, Ford's manufacturing efficiency and our emerging-market products and services strategy were also of significant concern to internal and external stakeholders. This section reports on all of these key material issues.

Current Business Environment

In 2010, the global economy continued to recover from a severe recession and challenging economic conditions in major markets. Ford also continued to improve its own financial condition significantly, building on the momentum gained in 2009. We achieved full-year profitability in 2010, with every business segment reporting better results than in 2009. We are continuing to introduce new products that are well received in the marketplace, and to increase productivity and reduce key costs to operate even more efficiently. We also substantially reduced our debt burden in 2010 and early 2011, helping us have more cash on our balance sheet than debt earlier

Perspectives on Sustainability

Michael Muyot

President and Founder, CRD Analytics

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Gary Johnson

Vice President, Manufacturing – Asia Pacific and Africa, Ford Motor Company

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than we expected.

Despite our progress, mixed overall economic conditions continued to impact our business. Unemployment, for example, remained high in many countries, including the U.S., where the unemployment rate was 9.4 percent as of December 2010. Global GDP grew by more than 3 percent last year, with the U.S. GDP expanding by 2.8 percent as compared to 2009. The pace of global economic activity varied substantially from country to country, with China growing more than 10 percent while peripheral European markets (e.g., Greece, Ireland, Portugal) experienced tepid growth associated with excessive government debt and weak banking systems.

The auto sector overall experienced moderate growth in 2010. Worldwide vehicle sales (including passenger cars, commercial vehicles and all trucks of medium- and heavy-duty gross vehicle weights) were estimated at 74 million units, which exceeded the prior peak in sales in 2007, before the recession began. Some markets continued to have government-sponsored scrap page programs and other aggressive new-vehicle incentives intended to stabilize sales and automotive production. Given how important the auto sector is to the core vitality of national economies, this support was important not only for the industry, but also for its customers, suppliers, local communities and other stakeholders. U.S. new-vehicle sales have improved from a low point of 9.8 million units (seasonally adjusted at annual rate) in the second quarter of 2009 to 12.7 million units by the fourth quarter of 2010.

Looking ahead to 2011, general economic indicators suggest that global economic growth will be in the 3 to 4 percent range. Improving conditions in the U.S. likely will bring the unemployment rate down gradually. Several emerging markets, such as China, India and Brazil, are experiencing rising inflation, which may lead to weaker economic growth. While economic growth could be slower in these markets during 2011, economic activity will continue to expand at a rate much faster than what is expected in the U.S. and Europe.

A further recovery in the U.S. auto sector is projected during 2011, with full-year sales predicted to reach 13 to 13.5 million units in 2011, and in Europe full-year sales are predicted to be in the 14.5 to 15.5 million unit range. Other markets are recovering at different speeds, due to differences in the pace of economic activity, interest rates and other important factors influencing the cost of vehicle ownership.

At Ford, we are looking forward to continued growth in 2011. We are investing in new products to meet growing consumer demand. And we are making significant investments in our manufacturing operations; in the U.S., we are retooling plants to produce more fuel-efficient vehicles, while in Asia, we are building new facilities and adding workforce to meet growing consumer demand.

The rest of this Economy section addresses our continued economic progress and our future plans to maintain this momentum.

Corporate.ford.com:
- Form 10-K
- Form 8-K
- Annual Report

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Progress

Some of our major financial and product achievements in 2010 and the first quarter of 2011 include the following.

- In 2010, we exceeded our profitability expectations with an $8.3 billion pre-tax profit[1] and generated $4.4 billion in Automotive operating-related cash flow. Every business segment reported a profit in 2010 and improved results over 2009.
- We gained market share in the U.S. in 2010, the first two-year consecutive increase since 1993. Our full-year market share was16.4 percent in 2010, up 1.1 points over 2009. Sales were up 19 percent over 2009, the largest sales percentage increase of any full-line automaker in the U.S.
- We achieved positive Automotive gross cash net of debt in 2010, earlier than we anticipated.
- We are making substantial investments in plants and job creation in all of our global regions. In 2010, we announced more than $9 billion in global investments for future growth, including $4.5 billion in North and South America, $2.9 billion in Europe and $1.7 billion in our Asia Pacific and Africa region.
- We continued to introduce new vehicles with best-in-class fuel economy, including the 2011 Ford Edge, Explorer, F-150 and Lincoln MKX, which all have unsurpassed fuel economy in their respective segments. In addition, all of our incoming vehicle models are getting better fuel efficiency than their outgoing model counterparts – for each and every vehicle line.
- We received a number of prestigious vehicle awards in 2010 and 2011. For example, the all-new Ford Explorer was named “Truck of the Year” at the North American International Auto Show, the Ford Focus was named the official car of the Consumer Electronics Show, and the Ford Figo was awarded Indian Car of the Year 2011 by a leading jury of automobile journalists. The Figo also was named Bloomberg UTV Autocar Car of the Year 2011 and ET ZigWheels Car of the Year 2010.
- Ford quality continued to improve in 2010. In the U.S., Ford tied with Honda for the fewest number of “things gone wrong” after three months in service among all full-line automakers. Ford also reduced “things gone wrong” in Europe, Asia Pacific and Africa, and South America.[2]
- We completed the full repayment of our hourly retiree health care obligations to the Voluntary Employee Beneficiary Association, an independent trust established as part of collective bargaining between Ford and the UAW.
- Ford won the “Business Turnaround of the Year” award from the 2010 American Business Awards, which are judged by more than 200 executives from across the U.S. The award recognized our efforts to turn the corner during 2009 in the face of a global economic and financial crisis, as well as unprecedented events in the U.S. automotive industry.

1. Excluding special items. For more information on Ford’s 2010 financial results, please see our annual 10-K SEC filing and our 2010 Fourth Quarter and Full Year Earnings Review.
2. “Things gone wrong” is measured as part of the Global Quality Research Survey (GQRS), which is conducted quarterly for Ford by the RDA Group, a market research and consulting firm.

Related Links

This Report:
- Ford’s Goals, Commitments and Status
- Sustaining Ford
- Economy Data

Vehicle Websites:
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- Ford Explorer
- Ford F-150
- Ford Focus
- Ford Figo
- Lincoln MKX

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Restructuring Our Business

To compete more effectively in today's global marketplace, and particularly in North America, we have been executing a plan to aggressively restructure our Automotive business to address the realities of lower demand, volatile fuel prices and the shifting model mix from trucks and large SUVs to more fuel-efficient vehicles. This restructuring includes right-sizing our production capacity, our workforce and our dealer network. We have worked closely with our partners in the UAW, our dealer network and the communities in which we operate to handle this transition responsibly and minimize the negative impacts of these changes.

Our restructuring efforts, though painful, have been highly successful. In 2010, we continued to build on momentum gained in 2009. We achieved full-year profitability that exceeded our expectations and improved performance in every business unit compared to 2009. We continued to reduce debt, becoming cash positive in 2011. We are also delivering best-in-class products that consumers want.

We have achieved these results by sticking steadfastly to our "ONE Ford" plan, which focuses on building a strong business, great products and a better world. The ONE Ford plan offers a detailed set of business objectives and systems for achieving those objectives, as well as a vision for delivering positive results for all our stakeholders, including our suppliers, our dealers and the communities in which we work.

- Restructuring Progress
- Investing in Operations
- Working with the UAW
- Steps to Reduce Health Care Costs
- Working with Dealers
- Working with Suppliers

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- Working as One Team
- Improving Fuel Economy

Restructuring Progress

We continue to work hard to restructure our business to achieve and maintain profitability, by delivering products customers want and value and by reducing our cost structure. Though this transition has been painful, it has begun to pay off. In 2010 and early 2011 we achieved some important results from our restructuring plan. For example:

- We exceeded our profitability expectations with an $8.3 billion pre-tax profit[1] and generated $4.4 billion in Automotive operating-related cash flow. Every business segment reported a profit in 2010 and improved its results compared to 2009.
- We gained market share in the U.S. again in 2010, the first two-year consecutive increase since 1993. Our full-year market share was16.4 percent in 2010, up 1.1 points over 2009. Sales were up 19 percent compared to 2009, the largest sales percentage increase of any full-line automaker in the U.S.
- Sales gains in the U.S. were led by the Ford Fusion sedan, which saw a sales increase of 21 percent compared to 2009; the Ford Taurus, with sales up 51 percent compared to 2009; the Ford Edge, with sales up 34 percent compared to 2009; and the Ford F-series, with sales up 28 percent compared to 2009.
- In 2010 we discontinued production of the Mercury brand, in order to fully devote our financial, product development, production and marketing, sales and service resources toward further growing the core Ford brand while enhancing Lincoln. As part of this effort, we are planning to add seven all-new or significantly redesigned Lincoln models in the next three years, including the first-ever Lincoln C-sized vehicle.
- We also completed the sale of Volvo, to sharpen our focus on the core Ford brand around the world.
- In 2010, Ford reduced Automotive debt by $14.5 billion, or 43 percent, which will lower our annualized interest expenses by more than $1 billion.
- Ford ended 2010 with positive Automotive gross cash net of debt. Automotive gross cash exceeded debt by $1.4 billion, an improvement of $10.1 billion from year-end 2009.
- We are investing more than $2.5 billion in our U.S. plants, retooling them to build more fuel-efficient vehicles.
- We will be adding more than 7,000 jobs in our U.S. operations during 2011 and 2012.
- We are investing more than $1.7 billion in new plants and plant improvements to increase our production capacity in the Asia Pacific and Africa region.

1. Excluding special items. For more information on Ford's 2010 financial results please see our annual 10-K SEC filing and our 2010 Fourth Quarter and Full Year Earnings Review.

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- Sustaining Ford
- Economy Data

Vehicle Websites:
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- Ford Taurus
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Investing in Operations

As part of our ongoing efforts to restructure our business to regain and maintain profitable operations, we have reduced and realigned our vehicle assembly capacity to bring it more in line with demand and shifting customer preferences. These efforts have been highly successful, and we are now reinvesting in North American plants and adding jobs in the U.S. We are also building new plants around the world to meet growing demand in our global markets.

In North America, we are transforming some of our traditional truck plants to produce smaller, more fuel-efficient vehicles. For example, we are converting assembly plants from the production of large SUVs and trucks to the production of small cars, to support what we believe is a permanent shift in consumer preferences to smaller, more fuel-efficient vehicles. We are also upgrading plants to produce more fuel-efficient engines and transmissions. These investments include the following.

- We are making an incremental $850 million investment in Michigan-based plants between 2011 and 2013 to support expanded manufacturing capabilities for new fuel-efficient, six-speed transmissions. These investments will be spread across a number of plants, including Van Dyke Transmission, Sterling Axle, Livonia Transmission and Dearborn Truck.
- We are investing $600 million to redevelop our Louisville Assembly plant to build the next-generation Ford Escape. When the Louisville plant reopens in late 2011, it will be our most flexible high-capacity plant, capable of building six different vehicles on a single line without requiring down time for retooling. Ford worked closely with state and local officials in planning this investment. The Commonwealth of Kentucky and the city of Louisville have committed up to $240 million in tax incentives during the next 10 years, based on current and potential future investments and job creation at the Company's two Kentucky facilities –Louisville Assembly and the Kentucky Truck Plant.
- In 2010, we invested $400 million in our Chicago Assembly and Stamping plants to launch production of the all-new 2011 Ford Explorer, which has up to 30 percent better fuel economy than the outgoing model and best-in-class fuel economy in the full-size SUV segment. This investment supported the addition of a second production shift at the Chicago Assembly Plant, which brought 1,200 new jobs to the Chicago area.
- We also are investing $400 million in our Kansas City Assembly Plant, to ready the plant for the production of a new vehicle, yet to be announced. This plant currently builds the Ford F-150 and the Ford Escape. The Escape will shift production to our Louisville Assembly Plant in 2011. The $400 million investment will pay for installing a new body shop, new tooling and other upgrades. The Kansas City plant will continue to produce the Ford F-150 on a separate production line. We worked closely with state and local officials in planning our continued investment in this state. Our investments were supported in part by the 2010 Missouri Manufacturing Jobs Act, which provides tax incentives for certified automotive manufacturers that commit to new investments and job retention in Missouri and to suppliers who create new jobs in the state.

These investments in American plants and more fuel-efficient vehicles add to the $550 million we previously announced to transform the Michigan Assembly Plant (MAP) from a large SUV factory to a state-of-the-art car plant. MAP is now building the new Focus, which began arriving in showrooms during the first quarter of 2011. The plant will also build the Company's Battery Electric Focus, beginning later this year, and the next-generation Ford C-MAX Hybrid and C-MAX Energi Plug-In Hybrid vehicles starting in 2012.

Many of these investments in our U.S. facilities are supported by loans Ford received from the U.S. Department of Energy to accelerate the production of more fuel-efficient vehicles. For more information on these loans, please see Ford's Green Partnerships with Federal and State Governments.

We also will be adding more than 7,000 new hourly and salaried jobs throughout 2011 and 2012 the U.S. This includes nearly 4,000 hourly jobs at several U.S. plants and 750 salaried engineering jobs in product development and manufacturing, which we expect to add in 2011. In 2012, we expect to add the remainder of the 7,000 new jobs through at least 2,500 more new hourly manufacturing positions.

Our improved financial performance has allowed us to begin growing our workforce. These gains come, however, after having made some significant and painful employee reductions over the past few years as part of our efforts to restructure our business and right-size our Company. Since 2005, we have reduced employment levels in our Ford North America business unit by about 58,800. As of December 31, 2010, our Ford North America business unit had approximately 74,900 salaried and hourly employees, including employees at Automotive Components Holdings facilities, compared with approximately 133,700 salaried and hourly employees on December 31,

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- Ford's Green Partnerships with Federal and State Governments
- Case Study: Michigan Assembly Plant: A Symbol of Ford's Transformation
- Operations

2005.

As part of the restructuring process, we closed plants to reduce capacity and better match demand. Since 2005 we have sold or closed eight Ford plants. We closed the Cleveland Casting Plant in 2010, and two additional plant closures will take effect by end of 2011 – the Twin Cities Assembly Plant and St. Thomas (Ontario) Assembly Plant.

We have also been working to sell or close the majority of the Automotive Components Holdings (ACH) plants that remain in our portfolio. We sold our ACH manufacturing plant in Utica, Michigan, in 2010. To date, we have sold and/or closed 10 ACH plants. We plan to close another plant in Indianapolis in the near future. We are exploring our options for the remaining ACH plants (Milan, Sheldon Road, Saline and Sandusky), and intend to transition these businesses to the supply base as soon as practicable.

When the decision is made to close a facility, we take an active role in returning the property to a productive use that will be environmentally responsible, return shareholder value and benefit the community. Ford wants to leave a positive legacy in the communities in which we have operated, and we are therefore committed to handling our environmental responsibilities and working with municipal leaders to ensure smooth and successful transitions to new uses.

Our first step with any closed facility is to assess and address any possible environmental issues on the property. The goal of our environmental assessment is to understand the environmental condition of the site and the actions needed to ensure that future use of the site will not pose any risk to human health or the environment. If any environmental issues are discovered, the property is cleaned up to the standard appropriate for its future use, whether industrial, commercial or residential.

We also undertake extensive communications with community leaders, citizens and real estate partners to understand the potential future uses for the property and the community's goals for the property. In some cases, Ford redevelops the property itself, but more often it seeks a well-qualified developer to buy and convert it. Some properties remain in industrial use. In other cases, the surrounding communities have changed since the plant opened, and new uses, such as retail, commercial or residential, are possible and desirable.

Ford has a corporate responsibility to maximize returns to our shareholders in the disposition of our properties. However, we always work with the community to see the property redeveloped into a productive and beneficial use.

In March 2011 we sold the former Norfolk Assembly Plant in Norfolk, Virginia, to Jacoby Development, Inc. As part of the transaction, Jacoby, in turn, sold a portion of the 100-acre former Ford plant to Belgium-based Katoen Natie (KTN), a global logistics provider. KTN will invest $12 million to establish a new warehousing and distribution operation, including $10.5 million to purchase the portion of the former Ford plant and refurbish the 662,000-square-foot former body shop, and $1.5 million for new equipment. The project is expected to create 225 new jobs. Ford worked closely with the City of Norfolk and the Commonwealth of Virginia to ensure the best use of the site, which is the largest privately owned, industrial-zoned, contiguous property in Norfolk.

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1. These employee numbers do not include dealer personnel. Also, 2009 employee numbers have been adjusted to reflect the new accounting standard on the deconsolidation of many of our variable interest entities.

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Working with the UAW

In November 2007, Ford workers represented by the UAW ratified a new collective bargaining agreement with Ford that includes significant innovative features to enhance productivity and reduce costs. The new agreement helps Ford to deliver on its key priorities, as it significantly improves Ford's competitiveness and allows the Company to continue to pursue its restructuring efforts.

As part of this agreement, Ford agreed to "in-source" 1,559 jobs to the UAW by 2012. We are currently on track to add more than 2,100 UAW jobs into our U.S. plants by the end of 2012, exceeding our commitment by about 35 percent.

Ford shared profits with its U.S. hourly Ford employees as a result of the Company's financial performance during 2010. The average amount – about $5,000 for eligible full-time hourly employees – is the largest payment Ford has been in a position to make since 2000.

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Steps to Reduce Health Care Costs

The delivery of high-quality, cost-effective health care is important to the success of Ford. The One Ford Health Strategy complements the corporate ONE Ford vision by targeting a culture of wellness that aligns incentives to help our employees become more informed and engaged in their health. We are providing resources and tools to help people make sound choices and to understand the benefits of being healthy.

Ford aims to build a culture of personal accountability in which knowledgeable, motivated people consistently work safely and make the right health choices to help deliver the ONE Ford plan. The One Ford Health Strategy is based on the following key concepts:

- Benefit designs that encourage healthy behaviors and appropriate use of care
- Tools and social support systems to enable wellness and help people become better health care consumers
- Partnerships for sustained and systemic improvement
- The measurement of results against benchmark companies and programs to ensure competitiveness

The One Ford Health Strategy and its central theme of building a wellness culture are globally focused. Though national systems of care vary from country to country, high-quality, cost-effective health care and a healthy, productive workforce are common goals. In the U.S., the Patient Protection and Affordable Care Act (PPACA) signed into law by President Obama expanded access to care and makes real progress toward reform. Though the law includes various measures intended to manage cost increases, we need to continue to develop ways to control rising costs while providing high-quality services; these are areas where Ford continues to actively participate in designing solutions.

In the meantime, we are encouraged that the PPACA includes provisions that address three key areas that we had previously identified as essential elements for maximizing the value of health care service through a combination of quality, appropriateness and costs:

- **Wellness and Prevention** – As a country, we must focus on prevention and wellness, and make sure that employers can offer creative incentives that work to engage people in healthy behaviors. We need to shift the focus from paying for sick care to preventing illness. This requires allowing employers greater flexibility for incentives that reward people who meet important health goals or demonstrate meaningful effort, not just agree to participate in a program. At Ford, we are doing our part to spread education and tools that effectively encourage people to take an active part in their health care. Salaried health care plans, for example, now integrate financial incentives linked to engagement in improving health behaviors and in making informed choices as a health care consumer. The PPACA increases employers' flexibility in designing wellness and prevention programs.
- **Health Information Technology** – We need a national technology infrastructure that allows the consolidation of a patient's medical records, so that the most appropriate care is given wherever treatment is provided. To accomplish this, we need electronic medical records at every doctor's office and hospital, and they all need to be connected. We also need tools to improve the accuracy and safety of prescription drug dispensing, such as electronic prescribing (ePrescribing). Ford is a key participant in the Southeast Michigan ePrescribing Initiative, one of the largest employer-driven ePrescribing initiatives. This initiative has helped Michigan become second in the nation in the use of electronic prescriptions. The PPACA includes a provision that addresses the need for a national standard and protocols for health information technology implementation.
- **Understanding What Works** – By studying the cost and quality of health care and its effect on health status, we can deliver more effective care. New innovations in technology and drugs are key drivers of cost increases. Therefore, before new innovations are widely implemented, they must be compared to the standard practice to really know whether and how much additional value they bring. The comparative effectiveness study provisions in the PPACA are a good start, but findings must be translated for consumers and combined with cost considerations to help inform their decisions.

We have taken steps to reduce our own health care costs. Effective January 1, 2010, for example, we are no longer obligated to provide retiree health care benefits to hourly UAW employees, retirees and their dependents. Effective January 1, 2007, and January 1, 2008, respectively, Company contributions for U.S. salaried retirees who are not eligible for Medicare are capped at 2006 levels, and Company contributions for U.S. salaried retirees who are eligible for Medicare are capped at $1,800 per member per year. Since 2005, health care contributions paid by Ford's U.S. active salaried employees have increased each year.

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Our focus on prevention and consumer engagement, along with actions relating to the One Ford Health Strategy, are intended to help us control health care cost increases, support the health of our active and retired employees, and reduce our competitive disadvantage related to health care costs.

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Working with Dealers

Our dealers are a critical part of our success and important economic contributors to the communities in which they work. They represent the face of Ford in communities across the U.S. and provide employment, tax support, community leadership and customer service.

As we have with all of our stakeholders, Ford is taking a proactive, collaborative approach to working with our dealers to appropriately size our dealer network to match our sales, market share and dealer sales objectives. Ford's dealer network revitalization plan focuses our efforts on the largest 130 metropolitan market areas, which represents more than half of Ford's retail sales. Customer convenience factors such as driving distance, location and the appearance of the facility are taken into consideration as part of our analysis. This continues to be an ongoing process. Ford is not mandating dealer consolidations nor competitive cost actions. Instead, Ford and its dealers are working together to continue finding solutions that make Ford and its dealers competitive and best positioned to support customers.

In 2010 we discontinued production of Mercury vehicles, which will affect our existing Mercury dealers. We will work closely with Mercury dealers and customers during the transition, including providing existing Mercury owners with continued access to parts and service support at Ford and Lincoln dealers and by honoring current warranties, including Ford's Extended Service Plans. As of December 31, 2010, we had successfully resolved Mercury franchise agreements for 96 percent of Mercury franchise holders.

In the U.S. at year-end 2005, we had 4,396 Ford, Lincoln and Mercury dealers, with 2,242 of those dealers in our largest 130 markets. As of year-end 2010, we had 3,424 Ford and Lincoln dealers (a reduction from 3,553 at the end of 2009). We will continue to work collaboratively with our dealers to reduce our dealer network to match our sales, market share and dealer sales objectives. Globally we had 12,000 Ford and Lincoln dealers as of December 31, 2010.

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Working with Suppliers

We have been working hard to strengthen our global supply base. We have instituted a number of business practices with our key suppliers that are designed to increase collaboration, provide for data transparency and expand the volume of business with select suppliers, while building a more sustainable business model.

We continue to work to strengthen our supply base in the U.S., which represents 80 percent of our North American purchases. As part of this process, we have been reducing the total number of production suppliers eligible for major global sourcing. In 2004 we had about 3,300 suppliers, while as of year-end 2010 we had more than 1,400. We have identified about 850 of these as long-term suppliers eligible for new major sourcing, which moves us toward our goal of 750 suppliers. We are also expanding our Aligned Business Framework (ABF) supplier program. In 2010 and early 2011, we had 75 production and 27 non-production ABF suppliers from around the world. We believe that our efforts at consolidation will result in more business for our major suppliers, which is increasingly important with the decline in industry sales volume.

As we move aggressively to global vehicle platforms, our sourcing from common suppliers for the total global volume of a vehicle's components is dramatically increasing. As a result, a smaller number of suppliers are receiving a greater volume of the purchases we make to support our global vehicle platforms. Ford has been working with its supply base to encourage global growth. For some suppliers, this means expanding to become global or entering into licensing agreements or joint ventures to extend their reach. It also means that a smaller number of suppliers will receive a greater volume of the purchases made by Ford. This again results in stronger suppliers achieving (and Ford realizing) greater economies of scale, as components are sourced across global platforms for the life of those platforms.

We are also "pre-sourcing" many parts to our ABF suppliers to help them plan and invest for long-term production volumes. For example, instead of asking for multiple bids from suppliers on components (a practice known as market-testing), Ford is pre-sourcing a greater percent of the commodities for the new Ford Focus with its preferred suppliers, consistent with ABF principles. Pre-sourcing saves time and money for Ford and its suppliers and drives longer-term relationships between Ford and the suppliers who typically provide 65 to 70 percent of vehicle components. Pre-sourcing helps provide suppliers with an ongoing flow of business, which gives them assurance to invest in new facilities around the world to support Ford globally.

In our U.S. operations, we have paid specific attention to strengthening our minority- and women-owned suppliers with purchases of approximately $3.8 billion in goods and services in 2010. Our consolidation efforts have resulted, and will continue to result, in more business for our major suppliers, which will increase their financial strength.

We require all of our suppliers to ensure that our products – no matter where they are made – are manufactured under conditions that demonstrate respect for the people who make them. We expect our suppliers to fully comply with local laws and our Code of Basic Working Conditions, and we verify that compliance with third-party audits. More importantly, we want to ensure that suppliers have the management systems in place to ensure continued compliance over time. A primary focus for this has been on training and education in the interpretation and application of legal standards and international best practices for working conditions in the supply chain. As of the end of 2010, we had trained 318,593 workers and managers at Tier 1 suppliers. Those suppliers have in turn cascaded this training to 56,284 Tier 2 suppliers.

See our new Supply Chain section for more on our work with suppliers.

Related Links

This Report:

- Code of Basic Working Conditions
- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Supplier Diversity Development

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Delivering New Products

Our financial turnaround has been based largely on our ability to deliver high-quality, innovative and desirable products everywhere we operate, including in both mature and rapidly growing markets. To further our progress, we are continually improving quality and customer satisfaction and anticipating and responding to changes in customer demand. We have aligned our product development, manufacturing and marketing organizations worldwide to deliver the right products to the right markets as efficiently as possible. (Please see our Global Products chart for an overview of our product offerings around the world.)

We are committed to introducing new products that consumers want and value, and we are receiving very positive reactions from consumers, the media and independent evaluators in response to the products we introduced in 2010. We plan to build on this strength in 2011. Our global product strategy is to serve all major markets with a complete family of products that have best-in-class design, quality, "green," safety and smart features.

To meet these global goals, in 2010 we delivered 24 new or redesigned vehicles to key markets around the world with class-leading fuel economy, quality, safety and technology. We plan to refresh all regional showrooms showcasing geographically available models approximately one-and-a-half times over the 2010–2014 period.

This section reports on our efforts to deliver the products customers want. Specifically, it discusses our efforts to track changing customer needs, deliver more fuel-efficient vehicles, offer "smart" technologies and ensure customer satisfaction and quality. The section also summarizes our sales highlights for 2010 and discusses our efforts to build customer awareness of our products.

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Understanding Changing Customer Needs

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- "Drive Smart" Technologies

Vehicle Websites:

- Lincoln MKX Hybrid

Consumers' wants and needs are constantly evolving, and we must keep pace with those wants and needs in order to remain competitive. Ford monitors global market trends, shifting consumer interests and social and political developments to identify issues that will likely affect our consumers, our industry and our Company. We rely on a network of internal and external experts – from around the world – to ensure that we get a diverse, comprehensive perspective on consumer trends and how they will affect consumers' future choices about vehicles and mobility. We apply these trend analyses throughout our marketing, product development, research and design organizations to guide future product and technology developments.

Our marketing experts use an intensive research and analysis process to understand who our potential customers are, what they value and what they want in a vehicle. We define a "brand DNA" and "target customer" for each of our main brands. Ultimately each individual product is also assigned its own specific DNA and target customer. The brand DNA and target customer profiles go beyond simple demographic information such as age, gender and income; we build complete profiles of our target customers, from what they like to do to what music they listen to and where they shop. This approach helps us to pinpoint targets for each vehicle we produce. Using a fully developed, typical customer as the focus for vehicle development brings our market research data to life and keeps everyone on the product development team focused on designing a vehicle that meets customers' needs and desires.

We develop our target customer profiles based on psychological traits and archetypes that transcend national characteristics and customer desires. This is a critical part of our drive to develop truly global vehicles that appeal to customers in multiple markets. Toward this end, we are focusing more on the emotional and psychological elements of how customers choose their vehicles as well as the traditional economic criteria of price and features. In addition to developing vehicles that deliver best-in-class features and price for value, our goal is to develop vehicles that fulfill the dreams and aspirations of each target customer group. We believe this approach not only helps us to understand our customers better, it helps us develop vehicles that capture the imaginations, dreams and loyalty of our customers across the globe. Of course, we are keenly aware that economic pressures will push the boundaries of brand loyalties, forcing us to work even harder to define our potential customers and build vehicles they can afford.

As we contemplate the economic pressures and other external factors that will influence our business, we know that we cannot predict the future. However, we can prepare for a broad range of possibilities through "futuring" exercises that help us to ensure we have robust strategies in place, whatever the future might bring. Therefore, in addition to product- and brand-specific market research, we have an office dedicated to tracking shifts in social, technological, economic, environmental and political arenas. This Global Consumer Trends and Futuring team is part of our ongoing effort to identify trends that will impact the future of consumers' values, attitudes and beliefs. The team collaborates with internal subject-matter experts and external thought leaders to ensure that we have a truly global and diverse view of the world. Ultimately, our goal is to see changes on the horizon and respond to them in a way that gives Ford a sustainable competitive advantage in terms of our product portfolio and business strategies. The rest of this section discusses some of the trends that currently guide our thinking regarding consumers and their future needs, wants and desires. These trends include:

- Increasing interest in safety and security
- Increasing demand for more fuel-efficient vehicles
- Growing consumer interest in "ethical consumption," or a desire to buy products from companies that reflect one's own environmental and social values
- An increasing focus on "careful consumption," in which consumers have to balance their values, passions and preferences with practical purchases, as the global economic recession continues
- Expanding interest in vehicles that help consumers meet their increasing desire for information and connectivity and make the most of their time
- A changing definition of luxury

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Safety and Security

Personal safety and security are at the forefront of consumers' concerns. It is essential that we deliver quality products that instill peace of mind for our customers. Ford offers a wide range of active and passive safety features. Electronic stability control, inflatable rear-seat safety belts and MyKey® are examples of our safety features. For more information, please see the Vehicle Safety and Driver-Assist Technologies section.

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Demand for Fuel Efficiency

Rising fuel prices, energy security issues and global climate change have accelerated consumer interest in cleaner, more-efficient vehicles. In newly developed and emerging markets such as Brazil, Russia, India and China, small vehicles (i.e., in the sub-B, B and C segments) make up the largest portion of new sales. For example, small cars account for 60 percent of the industry-wide vehicle sales volume in the Asia Pacific and Africa region. In addition, we expect that increased demand for smaller, more fuel-efficient vehicles will continue in the mature markets of North America and Europe, and consequently we have seen – and expect in the future – strong demand in those markets for our small-car offerings. (These offerings include the new Ford Fiesta and Focus models, which are based on our global platforms.)

In the U.S.-based 2010 New Vehicle Customer Survey, fuel economy was chosen as the feature most influencing drivers' next vehicle purchase decision. It ranked higher than pricing incentives and advanced safety technologies. Seventy-five percent of respondents ranked fuel economy as extremely or very influential in their next vehicle purchase decision, similar to the 74 percent level found in 2009, but below the 81 percent found in the 2008 survey. Average fuel prices in 2010 were 34 cents higher than in 2009, but still 56 cents lower than in 2008. As evidence of the overall trend toward more fuel-efficient vehicles, the crossover segment has doubled in market share since 2005, while the traditional truck-based SUV market share is less than half of what it was in 2005. This shift in demand is also visible in the changes in sales by vehicle segment since 2005 (see U.S. Sales by Segment chart).

Responding to this increasing demand for fuel-efficient vehicles is at the heart of our financial recovery plan and our product development plans. We are maintaining our commitment that all of our new vehicles will be best in class or among the leaders in their segment for fuel economy. And we are continuing to design and introduce advanced technologies that improve fuel efficiency, reduce emissions and lessen dependence on foreign oil. Elsewhere in this report we describe our response to the increasing demand for fuel economy and our plans to improve fuel economy with advanced technologies.

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Ethical Consumption

Customers are increasingly interested in buying products from brands and companies that reflect their environmental and social values – a trend we call "ethical consumption." Ethical consumers are integrating ethical, religious, political, environmental and other beliefs in the purchasing decisions they make. They want to feel good about their consumption choices. In fact, ethical consumption is often driven by how it makes consumers feel about themselves and the world around them. Therefore, these consumers tend to buy products from companies with values that they believe reflect their own. As a result, companies have to be aware of the values they express in their actions, products and communications.

In addition, as many social and environmental issues – like climate change – have worked their way into mainstream consumer consciousness, corporations are being held to rising standards, shaped by the recognition that seemingly small actions can have personal and environmental health and wellness impacts. Increased access to information and corporate transparency are also driving purchases based on ethical issues.

While customers generally are not willing to compromise on performance or affordability, they do want products that come from ethical companies and have positive environmental and social impacts. Being a good corporate citizen, and making a positive impact on our stakeholders, communities and the planet as a whole, have been integral parts of Ford's century-long heritage. Ford was recently named one of the world's most ethical companies by the Ethisphere Institute. The fact that this kind of list exists – and perhaps more importantly that publicly traded companies on the list continue to outperform both the FTSE 100 and the S&P 500 – illustrates the relevance of corporate ethics and values to consumer choices. This sustainability report is one of the channels we use to share the Ford story about our commitment to sustainability with consumers and stakeholders.

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Careful Consumption

At the same time that consumers' interest in ethical consumption grows, they are also facing very challenging economic conditions. We are therefore seeing a trend toward "careful consumption." Careful consumers balance their values, passions and preferences with practicality when making purchasing decisions. The careful consumer's purchase decisions tend to be more planned and considered, and less spontaneous or impulse driven. People who used to pay extra for a wide range of sustainable products may now have to make tradeoffs between buying to meet their social and environmental values and buying what they can afford. People are still considering sustainability in their purchase decisions, but these choices are also being limited by increasingly difficult economic realities.

Value – in terms of style, safety and quality – is paramount to many consumers. Because buyers are holding on to their older vehicles for longer periods of time, long-term durability is also a key priority.

In recognition of the careful consumption trend, Ford is delivering products that evoke passion while still delivering practicality in terms of the essentials. For example, we are developing more fuel-efficient vehicles that will reduce overall operating costs by lowering lifetime fuel costs. We are introducing high-end technological innovations like the SYNC® entertainment and communication system as standard equipment in many of our vehicles. And in 2010, we introduced a complimentary maintenance program for our Lincoln vehicles. The program is designed to enhance the four-year, 50,000-mile bumper-to-bumper manufacturer's warranty and covers oil and filter changes, tire rotations and multipoint inspections for up to eight service visits. As always, we are also reducing operating costs by increasing the quality and long-term durability of all our vehicles.

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Information Access

More and more people are demanding access to information and a connection to their social networks while in their cars. People have come to see their cars as more than just modes of transportation; they want their vehicles to help them stay informed and connected. This can be driven by an emotional desire for connection and a practical desire for productivity. People who drive to work spend, on average, more than an hour every day in their cars – and they want to be able to use that time productively and safely. Consumers today want to be able to connect with the outside world from within their vehicles, and they want access to the information they need to get things done while on the move.

Ford is responding to these demands by developing and implementing a wide range of cutting-edge, "drive smart" technologies that increase in-vehicle connectivity, productivity and efficiency, in an effort to make our customers' lives easier. MyFord Touch™ with SYNC® is the centerpiece of this effort. It allows our customers to have hands-free, voice-activated access to their phones and MP3 players inside their cars.

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The Changing Definition of Luxury

The "era of excess" that was the 1990s and early 2000s came to an abrupt end in the wake of the global economic recession of 2008. Today, most consumers are weary of conspicuous consumption; indeed some people regard ostentatious displays of wealth with suspicion or disdain. Products and services in the luxury realm are less about impressing others and more about expressing oneself. As a result, luxury products have to be smarter and more innovative than in the past. Ford is responding to this changing definition of luxury in several ways. For example, we are committed to transforming the Lincoln brand, product range and experience to ensure that we deliver luxury cars with sophisticated design, high fuel efficiency and innovative technologies. The Lincoln MKZ hybrid, for example, is the most fuel-efficient luxury sedan on the market. In the future, we will also introduce a C-sized Lincoln model that will provide both excellent fuel economy and luxurious design and features. We also introduced MyLincoln Touch™, an innovative new driver-vehicle interface system.

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Delivering More Fuel-Efficient Vehicles

Consumer demand for more fuel-efficient and cleaner vehicles continues to grow. Ford has taken a multipronged approach to meeting this demand. We are making progress by adding advanced technology to all our products and offering high-value, attractive models that are smaller, lighter and more fuel efficient, encouraging customers to shift their purchasing behavior. Our overall approach and the technologies we're using are set out in Ford's Sustainable Technologies and Alternative Fuels Plan, and some of our best in class fuel efficient vehicles are highlighted in the climate change section.

Related Links

This Report:

- Ford's Sustainable Technologies and Alternative Fuels Plan
- Vehicle: Best in Class Fuel-Efficient Vehicles
- Understanding Changing Customer Needs

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Balancing Our Portfolio Profitably

To meet the demand for more fuel-efficient vehicles and increase our financial health, we have been balancing the portfolio of vehicles we sell to better represent consumer demand for a variety of vehicle sizes and capabilities. We are leveraging our global product strengths to deliver six new world-class small and medium-sized vehicles to the U.S. over the next four years. And, we are targeting sales leadership in "people movers" and crossovers by adding new vehicles (such as the Ford Flex) and redefining existing vehicles (such as the Ford Explorer). Through these actions, we have aligned our product mix more closely with the broader industry.

In 2004, cars and crossovers represented only 35 percent of Ford sales volumes, with trucks and SUVs claiming 65 percent. By 2010 we had nearly reversed that balance, with car and crossover sales representing up to 57 percent of our overall sales volumes.

The 2012 Ford Focus

Small cars like the Ford Fiesta and Ford Focus now represent one in five new vehicle sales in the U.S., up from 14 percent of the market in 2004. Although we believe that the shift to smaller, more fuel-efficient vehicles is permanent, trucks, vans and SUVs will continue to be an important part of our North American offerings, in order to meet our customers' needs. We intend to maintain our leadership position in these segments by focusing our investment on fuel-efficient vehicles, such as the new Ford Transit Connect, as well as all-new powertrains with advanced technology that improve efficiency and save consumers money at the pump.

As consumer demand for smaller vehicles increases, we need to provide the vehicles people want, and provide them profitably, in order to remain a sustainable business. As part of our financial stabilization plan, we are reversing a decades-long trend of losing money on the production of small cars in the U.S. To accomplish this, and to secure our ability to continue to produce all types of vehicles in the U.S., we are taking the following actions:

- Leveraging the high volume of our global Focus-sized ("C-sized") platform vehicles, such that we will produce more than 2 million units per year globally by 2012
- Increasing the volume of Ford Focus models alone to more than 850,000 units per year by 2012
- Improving revenues on smaller vehicles by offering exciting exterior and interior designs, with class-leading fuel economy, safety performance, craftsmanship and technology. The improvements across all Ford vehicles are improving customers' perceptions of the Ford brand
- Improving costs on smaller vehicles to competitive levels through reduced complexity and global purchasing scale
- Improving fixed costs through more efficient utilization of manufacturing and supply base capacity and the sharing of engineering and tooling costs globally

The new Ford Fiesta and all-new Ford Focus platforms are good examples of how we are increasing small-car profitability without compromising on quality, safety, style or features. The Fiesta, which went on sale in Europe in 2008 and became available globally in 2010, is the first major product to come out of our new global product development process. Leveraging and integrating our global operations is one key element in making small cars more profitably. The Focus platform will form the basis for 10 new compact models by 2012. We plan to introduce at least six of the new models in the U.S., where we have converted truck assembly plants in Wayne,

Related Links

This Report:

- Delivering More Fuel-Efficient Vehicles
- Understanding Changing Customer Needs

Vehicle Websites:

- Ford Fiesta
- Ford Focus
- Ford C-Max

Michigan, and Louisville, Kentucky, to build small cars. The global Focus went on sale in the U.S. in early 2011;a battery electric version, called the Focus Electric, will go on sale later in 2011. In addition, the C-MAX – a seven-passenger, multi-activity vehicle that is based on the Focus platform – will come to the U.S. in the near future. The C-MAX will use a four-cylinder, 1.6L EcoBoost™ engine. In addition, a five-passenger C-MAX will be available in hybrid and plug-in hybrid versions in 2012 in the U.S. and 2013 in Europe.

Our smaller cars are already proving very successful in the marketplace. The Fiesta has exceeded our expectations and is drawing new buyers to the Ford brand. The car is among the top sellers in the B segment (subcompact), and its retail share has increased steadily since introduction. In recent months, Ford's share of the combined B/C-segment has increased 50 percent to almost 10 percent – the highest in more than six years. In addition, average transaction prices for Fiesta are the highest in the B-car segment.

"Drive Smart" Technologies

Ford has introduced a wide range of "smart" technologies that increase access to information, entertainment and communication options while driving. These new technologies give drivers a new level of vehicle efficiency, productivity and connectivity, making their lives easier. Furthermore, we are responding to customers' increasing demand for excellent value by offering these premium technologies on a wide range of our vehicles, not just our luxury vehicles. The all-new 2010 Ford Taurus provides a good example. This vehicle won Edmunds.com's first-ever "Technology Breakthrough Award," for setting the standard for technology that's practical, intuitive and offers exceptional value to consumers while making driving safer and more convenient. In addition, Ford earned our third-consecutive invitation to keynote the International Consumer Electronics Show, confirming the Company's place among the world's leading electronics and technology innovators. At the 2011 show, Ford President and Chief Executive Officer Alan Mulally introduced the Ford Focus battery electric vehicle and Ford's entry into the growing smart-phone-to-vehicle connectivity movement with MyFord Mobile™ (described in detail below).

Ford's "drive smart" innovations also reflect our commitment to work with industry leaders in communications, information and entertainment technologies to deliver the best-possible technologies for our vehicles. For example, we joined with the companies IDEO and Smart Design to research a new smart dashboard display system for our hybrid vehicles. We worked with Microsoft, DEWALT, Master Lock, Garmin and Sprint to deliver our new Ford Work Solutions™ system. And we worked with SIRIUS to add even more features to our voice-activated navigation system.

The remainder of this section describes in detail some of our new "smart" technologies.

MyFord Touch™ (and MyLincoln Touch™) Driver Connect Technology with SYNC® delivers a new approach to in-vehicle controls, displays and interfaces and provides access to ever-expanding in-vehicle functionality while minimizing driver distraction and improving interior aesthetics.[1] MyFord Touch replaces many of the traditional vehicle buttons, knobs and gauges with voice commands, LCD screens and five-way buttons that drivers can customize.

MyFord Touch™

This technology will be available across our full range of vehicles, from affordable small cars to high-end luxury vehicles. It debuted on the 2011 Ford Edge and Lincoln MKX crossovers, followed by the 2011 Ford Explorer and 2012 Ford Focus in North America. By 2015, approximately 80 percent of Ford's North American models will offer MyFord Touch, with similar percentages predicted for the world market. MyFord Touch with SYNC will be launched in Europe in 2012, initially on the Ford Focus.

MyFord Touch won the Gold-level award in the Transportation: In-Car Driving Aidscategory at the 2011 Edison awards, which recognize innovations that touch people's everyday lives. The technology was also recognized at the 2010 Consumer Electronics Show with Popular Mechanics' "Editor's Choice" award and CNET's "Best of the Consumer Electronics Show" award.

We are now adding a range of additional functionality to the MyFord Touch system. In 2010, for example, we announced an "**EcoRoute**" function for MyFord Touch that uses historic and real-time traffic information to recommend routes that could increase fuel economy by as much as 15 percent. The EcoRoute system was introduced initially on the Ford Edge and Lincoln MKX. It will be standard on all MyFord Touch and MyLincoln Touch equipped vehicles going forward.

Related Links

This Report:

- Battery Electric Vehicles (BEVs)
- Understanding Changing Customer Needs

Vehicle Websites:

- Ford Taurus
- Ford Focus
- Ford Explorer
- Ford Edge
- Lincoln MKX

In addition, Ford is the first automaker to offer **HD Radio™ with iTunes™ tagging**. This system is available on 2011 model year Ford vehicles equipped with MyFord Touch or MyLincoln Touch with the latest generation of SYNC. HD Radio captures free digital radio broadcasts, which eliminate static, fadeout and other problems associated with conventional analog radio signals, resulting in FM audio comparable to near-CD quality and AM audio that sounds like today's FM broadcasts. iTunes tagging allows drivers to capture a song they hear on the HD Radio receiver for later purchase through iTunes.

SYNC is Ford's award-winning, hands-free communications and connectivity system that uses customers' Bluetooth™-capable mobile phones to deliver personalized traffic reports, precise turn-by-turn driving directions and up-to-date information, including business listings, news, sports and weather – without requiring a built-in navigation system. As of January 2011, more than 3 million Ford and Lincoln vehicles have the SYNC system.

In 2010 and 2011, Ford introduced a wide range of additional capabilities to SYNC, including the following:

- **Improved voice-recognition technology.** MyFord Touch with SYNC relies on voice-recognition software. Ford has been working with Nuance Communications, a speech technology leader, to continuously improve the voice-recognition capabilities of these systems. SYNC can now recognize more than 10,000 top-level commands, 100 times more than when it was first introduced in 2007. These improvements mean that drivers can accomplish what they want with fewer steps and without having to learn a single, specific command for each task.
- **Wi-Fi® capability.** By plugging in a USB modem, SYNC can now turn a Ford vehicle into a wireless hotspot. There is no extra charge for this service, as part of SYNC. This system includes safety features to prohibit users and devices not authorized by the driver. In addition, the Wi-Fi capability is only available when the vehicle is in park.
- **Voice texting capability.** SYNC is the industry's first in-car connectivity system that allows drivers to not only listen to incoming texts on compatible cellular phones, but reply via voice commands using 15 preset responses that can be personalized.

Via SYNC, Ford also now offers a variety of services that involve a smart phone-to-vehicle connection. For example, **SYNCAppLink™** enables voice control of smartphone applications, or "apps." This application programming interface allows the hands-free use of popular apps such as Pandora internet radio, Stitcher news radio and the Twitter client OpenBeak. AppLink was introduced on the Ford Fiesta and will be available on the 2012 Ford Mustang. AppLink was the Silver award winner at the 2011 Edison award in the Transportation: In-Car Driving Aids category, which recognizes innovations that improve people's everyday lives.

SYNCAppLink™ allowing voice control for the Pandora internet radio app

In 2010, Ford released its **Software Development Kit (SDK)** to a new set of smartphone app developers so they can modify existing apps to work hands-free using voice recognition through Ford SYNC. This will continue our efforts to forge more open collaborative bonds with the wireless, consumer electronics and app developer communities to create a better, smarter in-car connectivity experience that leverages the mobile devices customers own.

Through **SYNC with Traffic, Directions and Information (TDI)**, users can say the command "services" to access a wide range of cloud-based, on-demand, voice-activated features and information – including turn-by-turn directions, traffic, news coverage, sports reports, weather forecasts and business searches. In 2010, we added new services at no additional charge to current and future SYNC TDI users, including horoscopes, stock quotes and movies and travel information. The latter function provides a direct connection to 150 airlines, 50 hotel chains and 11 of the largest rental car companies in the U.S. SYNC TDI is available on the 2010 and 2011 Ford Focus, Fusion, Taurus, Mustang, Escape, Edge, Flex, Explorer, Sport Trac, Expedition and F-Series; the 2011 Ford Fiesta; and the 2010 and 2011 Lincoln MKX, MKS, MKZ, MKT and Navigator.

Send to SYNC, is a cloud-based smartphone connection that allows users to send traffic, maps and other information from their phone or the internet to their in-vehicle SYNC systems, when not in the vehicle. For example, drivers could search for directions online or on their phone and then send the resulting map directly to their vehicle, where they can access it using SYNC TDI.

We also introduced the **SYNC Destinations** smartphone app, which provides users with

recommended departure time, travel time and estimated time of arrival based on current and expected traffic conditions along their route.

Finally, **enhanced 911 Assist™** can provide operators with the ability to receive a vehicle's exact GPS coordinates in the event of an accident. Ford 911 Assist with GPS location is a subscription-free, no-additional-cost feature to customers for the life of their vehicle. It launched on all 2011 MyFord and MyLincoln Touch equipped vehicles and select 2011 SYNC-equipped models.

In addition to all of the SYNC-related technologies and features, Ford is also offering a variety of other new "smart" technologies on our vehicles. For example, the Ford Focus Electric will feature **MyFord Mobile**, which will allow drivers to connect to and communicate with their electric vehicle through their smartphones or a secure website. Using this technology, Focus Electric drivers will be able to plan trips, monitor the vehicle's state of charge, receive various alerts for vehicle charging, as well as several other features designed to simplify the electric vehicle ownership experience.

Hands-free lift gate is an industry-first technology that allows customers to unlock and open the rear hatch even when their hands are full. As long as the driver has the vehicle's key fob, a gentle leg motion below the center of the rear bumper activates sensors that cue the system to unlock and raise the rear liftgate. The hands-free liftgate will debut in the seven-passenger Ford C-MAX multi-activity vehicle.

Voice-activated navigation with **SIRIUS XM Traffic™ and SIRIUS XM Travel Link™** allows drivers to access up-to-the-minute, voice-activated information on traffic conditions, weather, area gas prices, sports scores and movie listings. The system responds to voice commands for destination programming and route selection. In addition, it provides enhanced route guidance features such as street name announcements, as well as detailed freeway exit, turn and ramp position lane guidance. Once the high-occupancy vehicle (HOV) option is engaged and a destination is entered, the system will map routes using more than 2,500 miles of HOV carpool routes throughout some of North America's most-congested metropolitan areas.

SmartGauge™ with EcoGuide is a dashboard display in the Ford Fusion and Lincoln MKZ Hybrids that gives drivers information to help them maximize fuel efficiency. The system provides information on current fuel economy, fuel economy history, odometer reading, engine coolant temperature, fuel level, battery charge status, electric vehicle mode, tachometer, engine output power, battery output power, power to wheels, engine pull-up threshold and accessory power consumption. Drivers can use the system to track their long-term fuel economy progress and illustrate it either with a traditional chart or using an innovative display of "growing leaves and vines." The more efficient a customer is, the more lush the leaves and vines, creating a visual reward for the driver's efforts. In addition, the real-time system feedback allows drivers to assess and modify their driving habits to achieve maximum fuel economy.

EcoMode provides drivers of non-hybrid vehicles with information on the fuel efficiency of their driving. This system monitors the key parameters for optimal fuel consumption that drivers can affect by changing their driving behavior, including gear shifting, anticipation (i.e., driving as consistently and smoothly as possible) and motorway driving (i.e., driving with the most efficient speed on highways and country roads). In addition, the system considers the percentage of cold-engine short trips. Through this monitoring process, Ford EcoMode generates a driver profile with a scoring system for these driving parameters and offers information on how to improve fuel economy over time. This process can be translated into driver advice that can help make the best use of the vehicle's technology. The system was introduced in Europe on the second-generation Ford Focus ECOnetic and in North America on the all-new Ford Focus. It is standard on the Focus SE, SEL and Titanium models.

Ford EcoMode in the 2012 Ford Focus

Finally, **Ford Work Solutions™** is a suite of four in-vehicle technologies that offers drivers connectivity, flexibility and security to better run key aspects of their business from their Ford truck or van.[2] The suite includes high-speed Internet access, radio-frequency identification tracking for real-time tool inventory, a cable locking system to secure items in the truck bed and a fleet management system in the in-dash computer. These technologies were developed through hands-on research with contractors and skilled tradespeople around the U.S. to ensure the technologies met their needs. At the 2010 Consumer Electronics Show, the Ford Work Solutions in-

dash computer won “Best of Innovations” in the category of In-Vehicle Accessories.

1. Driving while distracted can result in loss of vehicle control. Only use Sync, MyFord Touch and other devices, even with voice commands, when it is safe to do so. Some features may be locked out while the vehicle is in gear.
2. Some features may be locked out while the vehicle is in gear.

Customer Satisfaction and Quality

Quality and customer satisfaction together are a central mission of all of our employees. Ford has consistently improved quality over the past decade. In 2010, we tied as the highest-quality full-line automaker in North America, according to the Global Quality Research System assessment of initial vehicle quality.[1] The Ford brand also had the highest quality of any non-luxury brand in the J.D. Power and Associates Initial Quality Study.

Delivering high-quality vehicles is of paramount importance to customers' willingness to consider our vehicles; it also affects their satisfaction and loyalty. Quality is also important to our costs – high-quality vehicles have lower warranty repair costs. We include quality as one of the four design principles[2] that guide the entire design and manufacturing process for our vehicles. It is also central to our sales and service operations. As part of our efforts to improve quality, we have built three key kinds of quality into the brand DNA of all our vehicles: basic quality, or the fundamental reliability of the vehicle; performance quality, which includes attributes such as fuel economy and quietness; and excitement quality, or those unexpected convenience features that surprise and delight customers.

Measuring Quality and Customer Satisfaction

We track our progress in achieving this mission through a combination of internal and external measurements that assess how we are doing and where we can improve. The Global Quality Research System (GQRS), which tracks "things gone wrong," is our primary quality survey. It is implemented for us by the RDA Group, a market research and consulting firm based in Bloomfield Hills, Michigan. We also subscribe to J.D. Power and Associates' Initial Quality Survey and APEAL study. And, we track warranty claims and costs internally. In 2009 and 2010, we saw an improvement in both the internal and external measurements of quality. By several measures, our quality is now competitive with the highest-rated brands. Global and regional quality improvements are detailed in this section.

Global Quality System

We use an extensive Global Quality Operating System at every stage of vehicle development and manufacture, to make sure that our vehicles have world-class quality and performance. Our Global Quality Operating System was fully rolled out in 2008 after several years' implementation. Though we have always used quality systems, they were not always standardized across locations. By requiring standard processes and implementation everywhere we operate, we are continuing to expand our world-class quality results.

We begin designing for quality from the very earliest stages of every vehicle program. Approximately three-and-a-half years before a new model rolls off the assembly line, we virtually "pre-assemble" the vehicle, to identify and address potential quality issues at the beginning of the design process. This allows engineers to make corrections – and ultimately improve build efficiency, worker safety and quality – long before the vehicle design is finalized and built on a real assembly line. By using this virtual quality system, we have cut time-to-market by eight to 14 months, depending on the vehicle program, reduced costly late engineering changes, and are building fewer – but better – physical prototypes.

Once vehicles pass these virtual quality tests, we undertake extensive testing of actual vehicle prototypes for both manufacturing and performance quality.

Even after our vehicles have left the factory, we continue our efforts to improve quality. We evaluate every manufacturing-related warranty claim and migrate effective solutions into the assembly plant. We also gather feedback from our customers using survey tools, to ensure that we understand customers' problems with our vehicles, including actual product failures and customers' opinions of vehicle designs and features.

We use a Six Sigma process to resolve quality problems. In 2007, we completed our effort to integrate Six Sigma quality methodology into the Company's core processes. We now have Quality Functional Leaders who assist every organization within the Company in the implementation of Six Sigma problem-solving methods to improve quality and eliminate waste. Around the world, we have 95,000 Six Sigma "green belts," more than 10,000 "black belts" and 550 "master black belts" – Ford employees trained in how to apply Six Sigma principles and methodologies.

1. The GQRS study is conducted on a quarterly basis, with scores assessed from survey responses collected from vehicle owners by the RDA Group, a consulting firm.
2. The other principles are safety, smart technology, and fuel efficiency and green design.

Related Links

This Report:

- Global and Regional Quality Improvements
- Economy Data: Product, Quality and Service

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Global and Regional Quality Improvements

The following are key measures of our vehicle quality:

Global Warranty Spending

- Over the last three years, Ford has reduced its warranty repair rate by 40 percent in each region around the world.
- Global warranty spending per unit declined 13 percent in 2010, compared to 2009.
- Global warranty costs dropped by $400 million, or 18 percent, over the last three years (from year-end 2007 to year-end 2010). Plans are in place to achieve another 8 percent improvement in warranty spending by 2015.

GQRS Initial Quality (Three Months in Service) Report

2010

- Ford and Honda were statistically equal and had the fewest number of vehicle defects or "things gone wrong" (TGW) among full-line manufacturers in 2010.
- Owners of Ford, Lincoln and Mercury vehicles reported 1,140 TGW per 1,000 vehicles, a 6 percent improvement over 2009 and the 6th consecutive year of improvement – a feat matched only by Nissan among full-line manufacturers.
- Customer satisfaction rose to 82 percent, a 2 percentage-point gain over 2009 and statistically better than Toyota and Honda.
- In the U.S., the following models led their respective segments in the GQRS quality survey:
  - Ford Fusion Hybrid – Satisfaction Leader, C/D car
  - Mercury Milan Hybrid – TGW Leader, C/D car
  - Mercury Mountaineer – TGW Leader, Medium Traditional Utility
  - Ford Expedition – Satisfaction Leader, Large Utility
  - Ford Mustang – TGW Leader, Sports Car
  - Mercury Mariner Hybrid – TGW Leader, Small Utility
  - Ford E-Series – TGW Leader, Full-Size Bus/Van
  - Ford Explorer Sport Trac – Satisfaction Leader, Medium Traditional Utility

Residual Value Improvements

- Resale values increased by 15 percent year-over-year on Ford brand vehicles with one to five years on the road – outpacing the industry average by 2 percentage points (luxury units excluded).
- Resale values increased by 14 percent year-over-year on Ford brand vehicles with one to three years on the road – outpacing the industry average by 3 percentage points (luxury units excluded).
- Ford had the best residual values of any U.S. automaker in 2010 (luxury vehicles excluded), and several 2010 model year vehicles had better residual values than foreign competitors.
- The resale value of a 2010 Ford Taurus increased 34 percent, or $5,849, after one year in service, compared to the 2009 model.
- The resale value of a 2010 Ford Fusion V6 increased 22 percent, or $2,950, after one year in service, compared to the 2009 model.
- Ford's predicted resale prices are higher than Chevy, Toyota and Volkswagen in the 2011 model year, based on the Auto Lease Guide (ALG) May/June 2011 36-month residual forecast.

In North America in 2010, in addition to the progress noted above:

- The number of Ford, Lincoln and Mercury safety recalls decreased from 8 in 2009 to 7 in 2010, while the number of affected units decreased from 4.5 million to 600,000. Note that all but 12,000 of the 4.5 million vehicles recalled in 2009 were older models (1992–2003) that were equipped with faulty Texas Instruments speed control deactivation switches. Although the data shows the majority of the vehicles equipped with these switches do not pose a significant safety risk, we recalled them to reassure customers and eliminate any future concerns.

Related Links

This Report:

- Economy Data: Product, Quality and Service

Vehicle Websites:

- Ford Fusion Hybrid
- Mercury Milan Hybrid
- Mercury Mountaineer
- Ford Expedition
- Ford Mustang
- Mercury Mariner Hybrid
- Ford E-Series
- Ford Explorer Sport Trac

- Warranty spending decreased by 10 percent, compared to 2009.
- Ford's customer satisfaction with sales improved 2 points from 2009 and 4 points since 2005. In addition, customer satisfaction with service satisfaction improved 1 point compared to 2009 and 9 points since 2005.

In Europe in 2010:

- Full-year TGW decreased by 12 percent compared to 2009.
- Overall customer satisfaction increased 1 percentage point compared to 2009, to 60 percent.
- Sales satisfaction with dealer or retailer increased by 8 percentage points from 2009. Service satisfaction with dealer or retailer increased by 4 percentage points during the same period.
- Warranty spending decreased by 23 percent compared to 2009.

In Asia Pacific and Africa in 2010:

- Full-year TGW decreased by 11 percent compared to 2009.
- Full-year customer satisfaction increased by 1 percentage point compared to 2009, to 49 percent.
- A new APA sales and service satisfaction survey was launched in late 2010. Full year 2011 data will be available in early 2012.
- Warranty spending decreased by 17 percent compared to 2009.

In South America in 2010:

- Full-year TGW improved by 4 percent compared to 2009.
- Full-year customer satisfaction decreased by 1 percentage point compared to 2009, to 67 percent.
- Warranty spending decreased by 10 percent compared to 2009.

Owner Loyalty

Owner loyalty is a measure of customers disposing of one Ford product and buying a new Ford product. In the U.S., Ford achieved the highest increase in owner loyalty of any automotive company – an increase to 51.6 percent in 2010 compared to 42.1 percent in 2009. In Europe, Ford owner loyalty decreased from 49 percent in 2009 to 45 percent in 2010.

Quality Awards and Ratings

The high quality of Ford vehicles has been recognized via a range of third-party awards and ratings. For example:

J.D. Power and Associates 2010 Initial Quality Study℠ 1

- In 2010, for the first time, the Ford brand had the highest initial quality among all non-luxury brands in J.D. Power and Associates' Initial Quality Study (IQS). The Ford brand moved to 5th place among all brands, from 8th last year. This is the highest-rank position Ford has achieved in the IQS since ranking 23rd in 2004.
- The Lincoln brand ranked 8th in Initial Quality among nameplates, up from 26th place in 2009.
- The Ford Focus achieved "Highest Ranked Compact Car" in Initial Quality.
- The Ford Mustang earned "Highest Ranked Midsize Sporty Car" in Initial Quality.
- The Ford Taurus was named "Highest Ranked Large Car" in Initial Quality.
- The Hermosillo Assembly Plant earned a Silver Plant Quality Award for North/South America.

J.D. Power and Associates 2010 Automotive Performance, Execution and Layout (APEAL) Study℠ 2

Ford received segment awards in J.D. Power and Associates' 2010 Automotive Performance, Execution and Layout (APEAL) Study for the following five models, which ranked highest in their respective segments: the Ford Fusion, Taurus, Flex, Expedition and Explorer Sport Trac. The APEAL Study measures customer satisfaction with design, content and vehicle performance.

J.D. Power and Associates 2011 Vehicle Dependability Study℠ 3

In 2011, in J.D. Power and Associates Vehicle Dependability Study:

- Lincoln had the highest numerical score among nameplates in dependability measured at three years in service, moving up from 2nd last year.
- The Lincoln MKZ was ranked highest in the Entry Premium Car segment.
- The Lincoln Navigator ranked highest in the Large Premium Crossover/SUV segment.
- The Ford Fusion ranked highest in the Midsize Car segment.
- And the Ford Mustang ranked highest in the Midsize Sporty Car segment.

Interior Quietness Awards

According to the RDA Group's GQRS survey:

- In 2010, Ford maintained its lead over Honda and Toyota in key measures of interior quietness.
- The Ford F-150 ranked first in customer satisfaction with quietness and had the lowest wind noise troubles in its segment.
- The Ford Fusion Hybrid outperformed its segment competitors in interior quietness customer satisfaction.
- The Lincoln MKZ performed better than the Lexus IS and ES models to achieve a segment-topping rank for interior quietness satisfaction.

Kelley Blue Book Awards

- The 2010 Ford Fusion Hybrid, Taurus and Flex are among the "Top 10 Family Cars for 2010," according to the editors of Kelley Blue Book's website.
- In 2010, Ford remained the "most-considered" among 37 new-vehicle brands tracked in the Kelley Blue Book Market Intelligence study.
- The 2011 Ford Taurus, Super Duty and Mustang GT earned Kelley Blue Book's kbb.com Best Resale Value Awards in the full-size car, full-size pickup and high-performance car categories, respectively. This award recognizes vehicles expected to maintain the greatest proportion of their original list price after five years of ownership.

Strategic Vision Awards

- Four Ford vehicles topped their segments in Strategic Vision's 2010 Total Quality Index, the most of any brand: the Fusion for midsize car, the Taurus for large car, the Flex for midsize

Related Links

This Report:
- Vehicle Safety and Driver-Assist Technologies

Vehicle Websites:
- Ford Focus
- Ford Mustang
- Ford Taurus
- Ford Fusion
- Ford F-150
- Ford Fusion Hybrid
- Ford Flex
- Lincoln MKX
- Lincoln Navigator

External Websites:
- J.D. Power
- Kelley Blue Book

crossover utility and the F-150 for full-size pickup.

- Five Ford vehicles topped their segments in Strategic Vision's 2010 Total Value Award™ Index: the Fusion for midsize car, the Lincoln MKT for luxury multi-function vehicle, the Flex for midsize crossover utility, the F-150 for full-size pickup and the Ford F250/350 for heavy-duty pickup.

Automotive Lease Guide (ALG)

- Since 2008, Ford cars and trucks have improved the most of any brand in the Automotive Lease Guide's "Perceived Quality Survey," released in the fall of 2010.
- In the ALG's "Residual Value Awards," the Super Duty was the only winner among domestic manufacturers for the second year in a row.

American Customer Satisfaction Index (ACSI)

- Ford Motor Company and our brands fared very well in the 2010 American Customer Satisfaction Index.
- The Company's ACSI scores, up 5 percent this year, have risen a total of 10 percent over four years, the second-best jump in that short a span since the annual surveys began in 1994.
- Lincoln-Mercury had the highest customer satisfaction of any automotive brand and gained 1 percentage point over 2009, to 89 percent.
- Ford brand customer satisfaction decreased by 1 percentage point since 2009, to 82 percent. However, Ford brand customer satisfaction has increased by 6 percentage points since 2005.

AutoPacific

- Seven Ford, Lincoln and Mercury vehicles won their segments in AutoPacific's 2010 "Vehicle Satisfaction Awards:" the Taurus in the large-car segment, the Mercury Milan Hybrid in the hybrid car segment, the F-150 in the large light-duty pickup segment, the Ford Expedition in the large utility segment, the Lincoln MKT in the premium luxury crossover segment, the Ford Edge in the premium mid-sized crossover segment and the Ford Escape in the midsize crossover SUV segment.
- Ford was the 2010 AutoPacific winner for "Ideal Popular Brand and Top Brand Overall." The following vehicles won their segments for AutoPacific's 2010 "Ideal Vehicle Awards:" the Taurus SHO for large car, the Lincoln MKZ for luxury midsize car, the Fusion for premium midsize car, the Fusion Hybrid for hybrid car, the F-150 for large light-duty pickup, the F-250 for heavy-duty pickup, the Explorer for premium midsize SUV, the Lincoln MKT EcoBoost™ for premium luxury crossover and the Flex EcoBoost for large crossover.
- In the Popular Brand category, the Ford Taurus won AutoPacific's 2010 Motorist Choice Award for "High Tech," while the Taurus SHO won the Performance category. In the Premium Brand category, the Lincoln Navigator won for "Cargo Hauler."

For information on our vehicle safety accomplishments, please see the Vehicle Safety and Driver-Assist Technologies section.

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1. Source: J.D. Power and Associates 2010 Initial Quality Study.SM For award information, visit JDPower.com.
2. Source: J.D. Power and Associates 2010 Automotive Performance, Execution and Layout Study (APEAL).SM For award information, visit JDPower.com.
3. Source: J.D. Power and Associates 2011 Vehicle Dependability Study.SM For award information, visit JDPower.com.

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- Investing in Operations
- Facilities
- Mobility Solutions
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In 2010, economies around the world began a slow economic recovery. Auto sales globally experienced moderate growth in 2010. Worldwide vehicle sales (including passenger cars, commercial vehicles and all trucks of medium- and heavy-duty gross vehicle weights) were estimated at 74 million units, which exceeded the prior peak in sales in 2007, before the recession began. Auto sales in Europe, however, were lower than in 2009.

Ford experienced strong sales and market growth in many of our regional markets. This section outlines our sales performance in our major regional markets and our plans for investments and new product launches.

U.S.

In the U.S., we are introducing highly desirable vehicles in the fastest-growing segments, including crossovers and more fuel-efficient vehicles. In 2008, we committed that every new or significantly redesigned vehicle we introduce will be best in class or among the leaders in its segment for fuel economy. We are meeting this goal by introducing more fuel-efficient gas engines, smaller vehicles and hybrid vehicles.

We are also introducing new products faster. We delivered on our promise to have 100 percent new or freshened product by 2010. Over the next four years there will be no letup in our cadence. By 2014, we plan to have up to 130 percent of our portfolio be new or freshened.

Ford's sales in the U.S. were up 19 percent in 2010 compared to 2009, the largest increase of any full-line manufacturer. Ford's market share for 2010 was 16.4 percent, up 1.1 percentage points over 2009 and 2.2 points over 2008. Our improvement in overall market share is primarily the result of favorable acceptance of our redesigned products, a product focus on industry growth segments, and customers' increasing awareness and acceptance of our commitment to leadership in quality, fuel efficiency, safety, smart technologies and value. Our market share gain was led by strong sales of the Ford Fusion sedan, which increased sales by 21 percent over 2009; the Ford Taurus, which increased by 51 percent over 2009; the Ford Edge crossover, which increased by 34 percent over 2009; and the Ford F-series pickup truck, which increased by 28 percent over 2009. The F-series was the top-selling vehicle in the U.S. for the 29th year in a row and the top-selling pickup truck for the 34th year in a row.

We hope to build on these sales successes in the coming years by continuing to introduce exciting new products. The new Ford Transit Connect was introduced in the second quarter of 2009 and was awarded the 2010 North American Truck of the Year at the North American International Auto Show. The 2011 Ford Fiesta was revealed in North America in the fourth quarter of 2009 as a new offering and went on sale in the summer of 2010. The 2011 Ford Mustang debuted with a new family of V6 and V8 engines that deliver best-in-class performance and fuel economy and arrived in dealerships in the spring of 2010.

2010 was an aggressive product-introduction year, during which we substantially increased the amount of new vehicle introductions by volume over 2009 (which itself had many new product introductions). For 2010, these introductions included the all-new Ford Fiesta, Explorer, Super Duty, Edge and F-150 EcoBoost™ option, the Lincoln MKX and a hybrid version of the Lincoln MXZ. In 2011 we are introducing the all-new Ford Focus – the fourth vehicle in the Ford and Lincoln portfolio delivering 40 mpg or better – along with the Transit Connect Electric and the first I-4 EcoBoost offerings of the Explorer and Edge.

U.S. Product Sales by Segment

	Industry	Ford
Cars		
Small	21.9%	13.9%
Medium	15.5%	12.8%

Large	5.3%	6.8%
Premium	6.9%	2.5%
Total U.S. car sales	**49.6%**	**36.0%**
Trucks		
Compact pickup	2.2%	2.9%
Bus/van	5.7%	7.0%
Full-size pickup	11.7%	27.3%
Sport utility	24.3%	24.7%
Premium utility	4.9%	1.9%
Medium/heavy	1.6%	0.2%
Total U.S. truck sales	**50.4%**	**64.0%**
Total U.S. vehicle sales	**100.0%**	**100.0%**

Note: These numbers include Ford, Lincoln and Mercury vehicle sales in the U.S.

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Europe

In 2010, Ford remained the second-bestselling passenger car brand in Europe. In the U.K., Ford's largest European market, we were the top-selling car and commercial vehicle brand for the 34th and 45th year respectively. Ford was also the total sales market leader in Denmark, Hungary, Ireland and Turkey for the full-year 2010, and remained the No.1 imported brand in Italy and the Czech Republic.

Even with these successes, it was a difficult year for the entire automotive industry in Europe. December 2010 marked the ninth consecutive month of lower sales in the 19 main European markets.[1] Total industry sales were approximately 15.3 million units in 2010, more than half a million units below the 2009 level. Ford lost overall market share slightly in the 19 main European markets, ending the year at 8.4 percent market share, down 0.7 percentage points from year-end 2009. However, Ford gained market share in Sweden and Denmark.

In 2010, Ford's share of the Turkish market increased by 0.7 percentage points to 15.8 percent, the ninth year in a row that the Ford brand led the market in sales in Turkey. Sales in Turkey increased by 37,000 units to 123,800 in 2010 – a 42.6 percent increase over 2009. In 2010, we announced plans to invest $630 million with Ford Otosan in Kocaeli, Turkey, for future Ford Transit production.

Ford also improved sales in Russia and Eastern Europe in 2010. In Russia, Ford's 2010 sales were at 90,100, up by 9.8 percent or 8,000 units compared to 2009. Over the next several years, we expect industry sales volumes in Russia to grow rapidly and perhaps even exceed sales volumes in Germany, Europe's largest market.

Ford KA Titanium+

In 2010, we introduced or revealed 11 new vehicles in Europe, including the Ford Fiesta and Ka models, the freshened Galaxy, S-MAX and Mondeo, a new Focus ECOnetic, and the next-generation Ford C-MAX. We also introduced an expanded range of fuel-efficient powertrains, including the new Ford EcoBoost 2.0L and 1.6L engines and further improved TDCi diesel powertrains. In the first quarter of 2010, we also announced a $2.3 billion investment in UK manufacturing facilities over the next five years to support the production of low-carbon-emission vehicles.

Overall, our vehicles have been very well received in the European marketplace. Our three bestselling vehicles in 2010 were the Fiesta, which sold 399,600 units; the Focus, which sold 258,300 units; and the Transit, which sold 128,900 units. The Transit's 2010 segment share was the highest since 2006. In the UK, the Ford Fiesta, Focus, Galaxy and Transit led their respective

segments in sales.

In 2011, we are continuing to introduce exciting new vehicles, including the all-new Ford Focus in Europe. We will be introducing at least 20 new products and derivatives in Europe over the next three years. These include an all-new Ford Kuga and B-segment vehicle, as well as a completely freshened commercial vehicle range starting with the Ford Ranger later this year. Plus, Ford will launch its first all-electric vehicle in Europe in 2011 – the Transit Connect Electric. The Focus Electric follows next year.

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Asia Pacific and Africa

Our Asia Pacific and Africa region encompasses 12 markets – including Australia, China, India, Thailand and South Africa – on three continents. The fastest-growing markets for automobiles are in rapidly developing countries like China and India. In 2010, in fact, 90 percent of Ford's sales growth in the region came from China (62 percent) and India (28 percent). We expect 70 percent of our growth in the next 10 years to come from the Asia Pacific and Africa region.

Total industry auto sales for the region were 30.7 million units in 2010, up 6.2 million or 25.1 percent from 2009. All major markets in this region reported large sales increases over 2009, with the exception of Vietnam. Industry sales in the region are expected to increase to an estimated 50 million units by 2020. To meet this growing demand, we will launch more than 50 new vehicles and powertrains in Asia Pacific and Africa by 2015.

We have invested $4 billion since 2006 in the region and employ more than 25,000 people here. We are expanding our production capacity in China, India, Thailand and the rest of Asia, as well as launching new products in these and other markets to meet consumer needs and remain competitive. For more details on our plans to build new plants in Asia, please see Case Study: Sustainable Growth in Asia.

Ford's retail sales in the Asia Pacific and Africa region were up 32 percent in 2010 compared to 2009, to 743,958 units from 564,799 units. For information on Ford's wholesale sales in the region, please see Sustaining Ford.

Asia Pacific and Africa Market Share[2]

Major Markets	2010 Combined Car and Truck Market Share	Percentage Points Better/(Worse) than 2009
Australia	9.2%	(1.1)
China*	2.5%	No change
India	2.6%	1.3
South Africa**	7.7%	0.1
Taiwan**	6.1%	No change

* China market figures include JMC Ford brand vehicles (does not include non-Ford JMC vehicles).
** South Africa and Taiwan market share figures include Ford vehicles only, not Mazda.

2010 retail sales for China were 465,072, up 113,096 units or 32 percent from 2009. These sales figures include Ford-badged and non-Ford badged vehicles produced and distributed by our two Chinese joint ventures: Changan Ford Mazda Automobile Corporation, Ltd. (CFMA) and Jiangling Motors Corporation, Ltd. (JMC). The CFMA joint venture began production in 2003 and currently builds Ford, Volvo and Mazda models. The JMC joint venture assembles Ford and JMC vehicles for distribution in China.

We are continuing to increase our presence in China, with more investment in manufacturing capacity, the introduction of new products and the expansion of distribution channels. Ford currently has three vehicle manufacturing plants in China: one CFMA plant in Chongqing, one CFMA plant in Nanjing and one JMC plant in Nanchang.

In 2010, we announced a $300 million investment to build a new plant in partnership with JMC in Nanchang. This plant will be capable of building 300,000 vehicles per year. Also in 2010, we began building a new CFMA plant in Chongqing. This state-of-the-art manufacturing facility, which is scheduled for completion in 2012, represents an investment of almost $500 million. The flexible facility will begin production of Ford's next-generation Focus in 2012 and will be capable of producing a diversified range of products in the future. The plant will have an initial production capacity of 150,000 vehicles per year. It will include Ford's environmentally friendly and energy-efficient "three-wet" paint technology. When this plant comes online in the first quarter of 2012, Ford will have a production capacity in China of 600,000 passenger vehicles per year. We have also announced plans to build a third new plant in China – an engine plant also located in Chongqing and built in partnership with CFMA. This plant, which represents an additional $500 million investment, will add an additional 400,000 engine units annually, more than doubling CFMA's existing engine capacity of 350,000. Construction of the new engine plant is planned to begin next year, with engine production starting in 2013.

We are also increasing our introduction of new products in China. Ford will introduce four new vehicles in the Chinese market over the next three years, including the new Focus. We introduced the fuel-efficient EcoBoost engine and PowerShift transmission technologies in China in 2010, further expanding Ford's commitment to delivering more sustainable transportation in all the

markets we serve. In 2010, we also added 100 new dealerships in China, bringing our total number of outlets here to 340. The newer dealerships are located primarily in the fast-growing second- and third-tier cities located in western and northern China.

In India, we had a record sales year in 2010, and we are continuing to expand production capacity and new vehicle introductions. 2010 sales in India were up 168 percent, led by strong sales of the Ford Figo, Fusion and Ikon. To meet the growing demand, we plan to introduce eight new vehicles in India by the middle of the decade.

Ford Figo

We are in the process of significantly increasing our presence in India with more investment in manufacturing capacity. We have invested $500 million to expand our current manufacturing facility in Chennai, India. This investment was used to build a fully integrated and flexible engine manufacturing plant that began production of the all-new Ford Figo – described below – in 2010. The new facility will be capable of producing 250,000 engines per year. The plant will also be equipped with Ford's environmentally friendly and energy-efficient three-wet paint technology. Overall, the plant's annual vehicle production capacity will be doubled to 200,000 units after the expansion, which is also expected to create 1,000 new jobs. We are also strengthening our service support in India by expanding our sales and service network across the country. Our dealer network has increased to more than 170 across more than100 cities in India.

In 2010, Ford introduced the Figo, an all-new four-door hatchback small car. This vehicle was designed with the help of Ford's Indian design and engineering team to meet the needs of Indian and other markets. It represents Ford's continued commitment to delivering exciting, high-quality and fuel-efficient products in growing markets like India and the rest of Asia. The Figo has been highly successful in its first year of sales. It has received multiple prestigious industry awards, including being selected Indian Car of the Year 2011 by a leading jury of automobile journalists; winning the Bloomburg UTV Autocar Car of the Year 2011, Value for Money Car 2011, and Premium Compact Car of the Year 2011; and winning ET ZigWheels Best Premium Hatchback and Car of the Year 2010. Ford was also named the top manufacturer overall for 2011 in India in the Bloomberg UTV Autocar awards.

In 2010, we also launched in India a new model of the Ford Endeavor luxury SUV, a 4X2 automatic with 3.0L156 PS (154 horsepower/115 kW) Duratorq® TDCi engine. This vehicle delivers best-in-class fuel economy among diesel automatic luxury SUV offerings in India.

In Thailand, Ford's 2010 sales were up 78.7 percent over 2009. To meet growing demand in the region, construction is underway in Thailand for a new $450 million Ford assembly plant scheduled for completion in 2012. The plant will include many of Ford's state-of-the-art flexible manufacturing and environmental processes, including the three-wet paint process, which reduces energy use and volatile organic compound emissions. The plant will also feature an on-site wastewater treatment facility, energy-efficient lighting, daylighting, natural ventilation and local and recycled materials. The plant will also boost the local economy. Ford is expected to purchase $800 million in local components. The plant could also provide up to 11,000 new local direct and indirect jobs. The facility will begin producing the Ford Focus for Asian markets in 2012.

In addition, Ford and Mazda Motor Corporation recently announced an additional investment of $350 million in their Auto Alliance Thailand joint venture, to support the production of next-generation pickup trucks. We have already invested $500 million in a new, highly flexible, small passenger car plant through Auto Alliance Thailand. In 2010, this facility began producing the new Fiesta for other major Asian markets.

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South America

Ford is the fourth-largest automaker in South America, where our principal markets include Brazil, Argentina and Venezuela. Ford's 2010 market share for the region was 9.8 percent, down 0.4 percentage points from 2009.

South America Market Share

Major Markets	2010 Combined Car and Truck Market Share	Percentage Points Better/(Worse) than 2009
Total South America	9.8%	(0.4)*
Brazil	10.4%	0.1
Argentina	12.4%	(0.9)
Venezuela	18.5%	(2.4)

* The South American market share is based, in part, on estimated vehicle registrations for our six markets in that region.

We continue to launch new products to meet the needs of our South American customers. In 2010, we brought a flexible-fuel version of the European-based Ford Focus to Brazil and also launched the North American Edge and Fiesta in Brazil. We are making our largest-ever investment in Brazil operations in a five-year period, by investing R$4.5 billion from 2011 to 2015 to accelerate the delivery of more fuel-efficient, high-quality vehicles, which customers in Brazil desire. South America will have versions of Ford's global small and midsize vehicles by 2013, including Fiesta- and Focus-sized small cars and utilities, Fusion- and Mondeo-sized midsize cars and utilities, compact pickups and commercial vans.

This sales growth in the rapidly growing markets of South America (and Asia) represents a significant achievement for our Company. At the same time, we know that our long-term success in these developing and revitalizing economies will depend on our offering new types of mobility solutions that are increasingly sustainable and tailored to the unique needs of these markets. Our sustainable mobility strategy is aimed at ensuring we do just that.

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1. The main 19 European markets are: Austria, Belgium, Britain, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Spain, Sweden and Switzerland. Ford reports sales for Estonia, Latvia and Lithuania through our Finnish National Sales Company, so sales data for the Baltic states are included within the 19 European markets. The list of 19 does not include Turkey or Russia. Also, the market share data does not include Volvo.
2. Includes sales of Ford-brand vehicles and market share for certain unconsolidated affiliates, particularly in China.

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- Ford Explorer

One important goal of our marketing and communications activities is to increase consumers' knowledge of our products and our corporate performance. We are particularly focused on improving consumers' awareness of the Company's excellent quality, safety, environmental and social performance. We use a wide range of communication methods to share information about Ford with potential customers and to get feedback from drivers. This sustainability report is one key element of our strategy. We also engage in two-way communications with consumers and other stakeholders through a variety of stakeholder engagement forums.

These communication efforts – coupled with delivering products with world-class quality, fuel economy, technology and other features – are paying off. We saw increases in favorable opinion and purchase consideration for our products across the U.S., Brazil, the UK and China.

We track consumers' familiarity with, opinion and consideration of, and shopping and purchase intentions for our vehicles as part of our brand value and awareness tracking. Tracking these elements helps us to understand how consumers view our vehicles and where we need to focus our product development and communications efforts to improve consumers' perceptions of and interest in our vehicles.

Social Media

In 2010 and 2011, we are continuing our innovative use of social media to connect with customers and get the word out earlier than ever about our new products. Social media channels, such as Twitter, Facebook, YouTube and blogs, are increasing in importance and influence, especially with the so-called "millennial generation" – those born from the late 1970s through the late 1990s. Between 2009 and 2010, internet and mobile media were the only marketing channels to grow in "share of time spent." Globally, social media use increased by 82 percent last year.

Ford launched its first major social media campaign in 2009 – the "Fiesta Movement," which supported the launch of the Ford Fiesta in the U.S. Through this program, Ford selected more than 100 online "influencers" to drive a Fiesta for six months before launch and relate their experiences in real time through social media sites such as Facebook, Twitter, Flickr and YouTube.

We built on the success and positive experience of the Fiesta Movement in the launch of the 2011 Ford Explorer and 2012 Ford Focus. Our initial reveal for the all-new Explorer was done on Facebook, rather than at an auto show or in a television advertisement. As we neared the launch date, we received many similar questions from thousands of fans, so we used those inquiries to create a responsive video series in which we personally answered the questions and highlighted the vehicle in a personal way. We also used the opportunity to gain customer insights on how to develop the creative effort for new Explorer advertising, which focuses on the joy, freedom and family time of the American road trip. The next phase of our social media launch of the Explorer – called Go! Do! Adventures! – invites everyone to suggest (through the Explorer Facebook page and other partner sites) how they would use the Explorer to create their dream road trip. Explorer fans can submit entries in the form of essays, photos and videos, telling us what dream or adventure the Explorer could help them live out. Based on these entries, we are choosing a number of people to actually live out their adventure for a week. We will capture their experiences and turn them into short films to be distributed online and offline. We will also develop them into a one-hour TV special and traditional television advertisements.

To launch the all-new Ford Focus, we began a campaign called "Focus Rally: America" on Super Bowl Sunday. Instead of running a typical television ad about the vehicle itself, we ran an ad to launch this social media event. Focus Rally: America was a five-week, interactive reality show (in the form of a cross-country rally) developed by the creators of CBS's Amazing Race and broadcast on Hulu. For the show, we recruited six pairs of people to complete tasks around the country, often using the technology features of the Focus to achieve their goals. The show launched on February 1 on Hulu and was available in real time on YouTube, Facebook and Twitter.

We are also actively using Twitter to engage with consumers on all matters, including customer

service. We answer questions, provide information and give customers help when needed. Twitter remains the best resource for real-time assessment of what people are saying about us and provides us with a valuable platform for listening.

And, we are making it easier for visitors to our Ford websites to find third-party content about Ford online, particularly with the ever-evolving "The Ford Story" site. We hope that integrating third-party information into our sites will provide a valuable service to consumers and will show our confidence in the vehicles we're producing.

Through these and other innovative communication methods, we are seeking to stimulate user discussions about our products.

Opportunities for discussions and information monitoring on the Internet are countless. So, in addition to the institutionalized efforts of our Communications and Marketing divisions, we are empowering some of our employees to communicate about Ford on the web by making our "digital participation guidelines" more widely available and giving employees the information they need to communicate successfully in these arenas. We think that allowing employees to have open and real communications within their digital communities sends a clear message that Ford is committed to forging relationships online and being accessible to its audiences. For more on the guidelines, see the social media case study in the Governance section.

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Other Nontraditional Marketing

We use a range of other nontraditional marketing and communications efforts to increase awareness of our products and engage consumers and stakeholders. Through our "Drive One" campaign in North America, for example, we offer opportunities for people to experience our vehicles first-hand. The goal of Drive One is to encourage people who might not otherwise be considering a Ford product to see for themselves what we offer. Drive One is based on our belief that, when people drive our vehicles, they will have more positive opinions of our products and will be more likely to buy them. The campaign highlights Ford's four key brand pillars: safety, quality, green technologies and smart technologies.

Based on the Drive One approach, we hosted our first-ever "global test-drive" event to launch the all-new Focus. For this event, we chose 50 consumers from around the world and flew them to Spain for a two-day driving experience in Focus prototypes, even before the car was in dealerships. We chose the test drivers through our Focus Facebook page. We also asked them to record their experiences and their views and share with others directly through their social networks.

In a similar vein, we hosted a Built Ford Tough Roundup to launch the new 2011 F-150. This test-drive campaign gave thousands of potential customers the opportunity to test drive the new 2011 Ford F-150 months before it arrived in dealer showrooms. The program allowed people to see how the truck compares to competitor vehicles in an acceleration drive, and to test how the new EcoBoost™ engine performed when towing a trailer. The program traveled to seven cities in 2010, including Dallas, Houston, Detroit, Atlanta, Orlando, Los Angeles and Aberdeen, Maryland.

We believe that supporting causes that are important to our customers is a key way to show our commitment to social responsibility and strengthen our community ties. We emphasize this approach through one of our Drive One efforts, the "Drive One 4 UR School" campaign. Through this program, participants test-drive a Ford Explorer, Focus, Fiesta or other new Ford vehicle and help raise money for their local high school. For each test-drive that occurs during the single-day events, Ford donates $20 (up to a total of $6,000 per event) to fund sporting and other activities at the designated school. Since the program's inception in 2007, and as of December 2010, more than 1,500 Drive One 4 UR School events have taken place across the country, raising more than $5 million to support high schools nationwide. These events have enabled more than 255,000 participants to test-drive Ford products and have proven especially beneficial in getting non-Ford owners into Ford vehicles, as approximately 70 percent of participants did not currently own a Ford product. Feedback from participants shows that both purchase consideration and favorable opinion of the Ford brand improved after individuals had a chance to get behind the wheel and experience the Ford vehicle lineup first-hand. We are continuing this approach with global 2012 Focus launch. We wanted to create a unique program where real-world consumers can be the first to test drive the all-new Focus while also having a great opportunity to give back to the charities they are passionate about. Ford wanted the world to know that when you start up a Focus, you "start more than a car." In doing so, we have donated more than $400,000 to charities globally and are continuing to create a buzz in local markets while the participants drive the Focus and awareness.

We are also working to improve the effectiveness of our auto show presence around the world. Approximately 24 million people attend auto shows in the U.S. alone, so these are important opportunities to engage and share information with potential customers. At all of the major auto shows, we now use a wide range of interactive exhibits that help us better engage visitors and provide the kind of hands-on experiences that keep people at our exhibits longer and influence customer decision making. In fact, our exhibits are now the most interactive of any automaker. At the 2011 North American International Auto Show in Detroit, for example, we had 22 interactive exhibits, including slot car racing, live games and shows, vehicle simulators, and electric vehicle rides on an elevated track. Our exhibits revolve around our core brand attributes of fuel economy, quality, safety and smart technologies. For example, the displays included a hands-on experience with the Fusion Hybrid's SmartGauge™ with EcoGuide technology, as well as interactive touch tables illustrating the environmental benefits of both soy-based seat cushions and EcoBoost

engines.

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Traditional Advertising

Finally, we use traditional advertising to inform consumers about our products and our corporate performance. We use three primary advertising strategies: corporate-level communications about Ford Motor Company, advertising about our brands and specific products, and dealer-level product advertising. The goal of these advertising strategies is to sell vehicles. But just as important, we are aiming to increase general awareness about the excellence of our products and our corporate performance among people who are not yet in the market for a vehicle. To develop new products, we respond to market demands through our market research and product development efforts. Through our advertising, we hope to increase interest in and preference for our vehicles and our Company based on the excellence of our products and the positive actions of the Company.

As part of our ONE Ford transformation, we are working to improve the effectiveness of our advertising communications by involving dealers more closely in the development of our advertising strategies. Dealers communicate with our customers every day, and they have special knowledge about consumers' needs and wants. We included our dealers from the start in our Drive One campaign. In fact, prior to developing Drive One, we sought input from our entire Ford dealer body, and that feedback informed the campaign's development. Together we arrived at a campaign that works at the corporate, brand, product and dealer levels.

We are also improving alignment between our public relations efforts and our marketing efforts, to improve the effectiveness of all our communications. In 2010, a key focus of our communications was improving customer awareness of our quality and fuel-economy achievements. For example, we launched a new ad series for the Ford Fiesta in which Fiesta Movement agents – those who had been given a Fiesta to drive in advance of the U.S. product launch – describe how the Fiesta delivers best-in-class fuel economy and "smart" technologies, including the voice-activated SYNC® multimedia communications system. We are also highlighting that we make the first consumer car that delivers over 300 hp and yet achieves 31 mpg – the new Ford Mustang V6. And, we are emphasizing the introduction of the EcoBoost engine lineup, including new I-4 and V6 engines, which can deliver 10 to 20 percent better fuel economy and up to 15 percent fewer carbon dioxide emissions than larger-displacement engines.

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Increasing Consumer Awareness of Environmental Issues

Ford is also working to increase consumer awareness of key vehicle-related environmental issues, including how drivers can help to improve the environmental performance of their own vehicles.

In 2010, we launched a website to help consumers understand the different electrified vehicle options. The site provides jargon-free explanations of the differences between hybrid electric vehicles (HEVs), plug-in hybrid vehicles (PHEVs) and pure battery electric vehicles (BEVs), including details on the technologies that make them possible such as battery chemistry, charge ports and regenerative braking. The site is part of Ford's relentless efforts to educate consumers about the choices offered by the Company's range of electrified vehicles and to help potential buyers determine which electrified option might best suit their specific driving habits and needs. Consumers who visit the site can review videos, text and cutaway diagrams that illustrate the differences between vehicles like the Ford Fusion Hybrid, the Ford Focus Electric and planned Ford plug-in hybrids. The site does not offer opinions on which vehicle technology is better. Rather, it provides clear explanations about how gasoline, hybrid, plug-in hybrid and battery electric vehicles work, to help consumers decide which vehicle could be the best option for them.

Our efforts to educate consumers about environmental issues are being recognized nationally. In 2010, Ford won Nielsen's first Automotive Green Marketer of the Year award. The honor is given to brands that help shape consumer awareness of environmental themes.

We are also educating drivers about environmental issues while they drive. For example, Ford's new, advanced in-vehicle system – MyFord Touch™ – offers an array of real-time information on fuel-economy performance that can coach drivers to get more miles to the gallon and save on fuel costs. In addition, the MyFord Touch map-based navigation system offers an Eco-Route option that quickly calculates the most fuel-efficient route a driver can take to get from point A to point B.

MyFord Touch also enables drivers to monitor and track their vehicle's real-time fuel economy performance and mile-per-gallon averages for the past five, 10 and 30 minutes, in the form of a bar chart next to the fuel gauge on the display. Drivers can customize the amount of information provided to meet their needs and hone their eco-driving skills over time.

MyFord Touch is built on the fuel-efficiency "coaching" concept Ford pioneered in its SmartGauge™ with EcoGuide instrument cluster tool for the 2010 Fusion Hybrid. This tool is also available on the all-new 2011 Lincoln MKZ Hybrid. The system provides real-time fuel economy data and promotes fuel-efficient driving by showing a graphic of growing leaves and flowers.

We are launching a similar system in Europe called Ford EcoMode. Similar to EcoGuide, EcoMode helps educate the driver to achieve improved real-world fuel economy. It was first introduced on the Ford Focus ECOnetic and will be implemented as an option in more European Ford models in

the future.

We have also developed eco-driving tips that help drivers improve their fuel economy by almost 25 percent. We provide these tips on our website and through a Ford Driving Skills for Life online training program. We started providing eco-driving training in 2000 in Europe and have since expanded it to the U.S. and Asia. For more information on our eco-driving training programs, please see the Climate Change section.

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Financing Our Plan and Improving Our Balance Sheet

To deliver on our new product plans, our sustainability efforts and our plans to remain profitable, we have to continue to improve our balance sheet. During 2010, we generated positive Automotive operating-related cash flow of $4.4 billion. This contributed to our ability to reduce Automotive debt by $14.5 billion in 2010, from a total of $33.6 billion at the end of 2009 to $19.1 billion at the end of 2010. This represents a 43 percent reduction in debt, which will lower our annualized interest expenses by more than $1 billion. Even with our substantial debt reduction actions in 2010, we were able to maintain a significant level of Automotive gross cash (i.e., cash and cash equivalents and marketable securities) and ended 2010 net cash positive, with Automotive gross cash exceeding total Automotive debt by $1.4 billion – an improvement of $10.1 billion from year-end 2009.

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- Sustaining Ford

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Working as One Team

As part of our "One Team" approach, Ford has implemented a disciplined business plan process to regularly review our business environment, risks and opportunities, as well as our strategy and our plan. Through this process we also identify areas of our plan that need special attention and pursue opportunities to improve our plan. Everyone is included and contributes, openness is encouraged, and our leaders are responsible and accountable. We use facts and data to make our decisions, and high-performance teamwork is a performance criteria. We follow this process every week, every month and every quarter, driving continuous improvement. We believe this process gives us a clear picture of our business in real time and the ability to respond quickly and decisively to new issues and changing conditions – as we have done in the face of rapid changes in the market and business environment over the past few years.

At our weekly business plan meeting, management teams review every element of the business, both by business unit and by skill team. We also look at every metric of our business, from research and development to marketing to evolving emissions standards. Each item is coded red, yellow or green, and the team collaborates to turn reds (indicating problems) into greens as quickly as possible. This has been an important shift within Ford's corporate culture, in which potential problems were previously not always identified early enough. Now, defects are addressed before cars reach showrooms, and production levels are trimmed at the first sign of trouble.

In addition, we are enlisting our stakeholders to help us create an exciting and viable Ford business going forward. We are reaching out and listening to customers, shareholders, dealers, employees, the UAW, suppliers, creditors, communities, retirees, and federal, state and local governments. Each of these constituencies is a critical part of, and critical to, the success of our business going forward. Realizing our goal of profitable growth for all is as important to these stakeholders as it is to our shareholders.

This section addresses two key facets relating to our One Team approach: increasing global integration and our product development process.

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- Increasing Global Integration
- Improving New Product Development Process
- Employees

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Increasing Global Integration

Our core business strategy focuses on developing truly global vehicles that share common platforms, design elements, technologies and materials across our global markets. This approach is key to delivering high-quality, innovative and desirable products quickly and cost effectively. To make this strategy a reality, we have globally integrated our product development, manufacturing, purchasing and marketing efforts.

Going forward, we will be delivering more vehicles worldwide from fewer platforms. We have already reduced the number of global vehicle nameplates from 97 in 2006 to 59 in 2008 and then to 38 in 2010. Eventually, we will improve to 25 to 30 models globally, although we have not set a specific timetable to do that. In 2007, we had 27 different vehicle platforms, with 29 percent of our total production volume produced from core platforms. By 2014, we will have reduced our platforms to 13. By then, more than 80 percent of our volume globally will be produced off of core platforms, up from about 50 percent in 2009.

We have fully implemented our ONE Ford global product development system to deliver global platforms and customer-focused programs rapidly and efficiently across multiple markets. We use a hub-and-spoke approach, in which one lead product development engineering center – the hub – is assigned for each global vehicle line, thereby ensuring global scale and efficiency through common designs, parts, suppliers and manufacturing processes. The hubs are supported by regional engineering centers – spokes – which help deliver products tuned to local-market customer preferences while maintaining global design DNA.

With our ONE Ford plan, we are working to make all small- and medium-sized Ford vehicles on common platforms by 2013. This will include Fiesta- and Focus-sized small cars and utilities, Fusion- and Mondeo-sized midsize cars and utilities, compact pickups and commercial vans. In 2012, for example, we expect to produce more than 2 million vehicles from our global “C-car” (Focus-sized) platform. In North America alone, we expect to increase production of C-platform vehicles from 200,000 to 850,000 annually. We have already delivered on our promise to introduce at least 10 high-quality, fuel-efficient vehicles on this platform; they include the Focus sedan, hatchback, wagon and ST versions; the Focus Electric; the C-MAX five-passenger and seven-passenger versions; the C-MAX Energi Plug-In Hybrid; the C-MAX Hybrid; and a next-generation global utility vehicle to replace the Ford Kuga and Ford Escape. (The latter will be based on the Vertak concept vehicle revealed at the North American International Auto Show). By 2015, our global “B-car” (Fiesta-sized) platform will underpin 2 million vehicles. In 2010, we also unveiled our new global Ranger compact pickup truck. This new vehicle is based on our global small truck platform and will be sold in more than 180 markets. Leveraging global product programs has helped increase our overall product development efficiency by a projected 66 percent between 2006 and 2012.

We have also made changes to our Global Marketing organization to create a more consistent and compelling connection with customers worldwide, while better leveraging the Company’s global assets and capabilities. In 2010, we named Jim Farley, formerly Ford group vice president, Global Marketing and Canada, Mexico and South America operations, as Ford’s global leader for marketing, sales and service around the world. This marks the first time Ford has had a single global leader for marketing, sales and service. We are also taking many of our core marketing processes global. In 2010, for example, we expanded our Brand Equity and Awareness Tracking system to cover 45 global markets, up from 25 last year. This system, which tracks consumer familiarity and favorable opinion of our brands, as well as consideration, shopping and purchase intention, allows us to assess key elements of how consumers perceive our brand across our global markets. We are also implementing digitally based virtual market research technology throughout our global markets. This technology will allow us to test vehicle concepts in markets across the globe without shipping physical prototypes from one market to another. These global market research processes will help us develop truly global vehicles that appeal to consumers across national and regional borders.

These efforts to increase the global integration of our operations follow key restructuring efforts undertaken in 2007 and 2008. At that time, we reorganized senior leaders in the product development and purchasing organizations to assign global responsibility for key vehicle segments and major purchasing functions. We also globally integrated our regional research and product development organizations.

We are also increasing the global integration of our Quality Operating System. In 2008, for example, we completed the global implementation of a standardized quality system that replaced former regional systems. By requiring standardized processes and implementation everywhere we operate, we can continue to expand our world-class quality. Through our global product strategy and a single global management team, we are leveraging our assets, implementing best practices and a systematic approach to quality, and utilizing common components for the advantage of scale. The new integrated approach can be seen in the new Fiesta, our first of this generation of global cars under our ONE Ford plan. Selling one high-volume version of this vehicle helps us

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This Report:

- Working as One Team
- EcoBoost™
- “Drive Smart” Technologies

Vehicle Websites:

- Ford Fiesta
- Ford Focus
- Ford Mondeo
- Ford Fusion
- Focus Electric
- Ford C-Max
- Ford C-Max Energi
- Ford C-Max Hybrid
- Ford Ranger

reduce defects and improve overall craftsmanship. In North America, Europe and Asia, we will launch our all-new C-cars in 2011 that will compare very favorably to competitive models with respect to attributes such as wind noise, steering feel, ride and handling, braking response, door closing sensation, performance feel and seat comfort.

We are also continuing the global implementation of EcoBoost™, our new fuel-efficient engine technology. This technology launched in the U.S. in 2009 on the Lincoln MKS, Lincoln MKT, Ford Taurus SHO and Ford Flex, all of which use a 3.5L V6 EcoBoost engine. We have since introduced this engine on the 2011 F-150. In early 2010, we began implementing EcoBoost in Europe, where we introduced a 2.0L I-4 EcoBoost engine on the Ford Galaxy, Mondeo and S-MAX and a 1.6L I-4 EcoBoost engine on the Ford C-MAX and Grand C-MAX. In 2011 the all-new Focus will also offer the 1.6L I-4 EcoBoost. In 2011, the 2.0L EcoBoost will make its North American debut in the Ford Explorer and Edge. We also introduced EcoBoost for the first time in the Asia Pacific and Africa region in 2010 with the 2.0L EcoBoost engine on the Ford Mondeo in China. In 2011, we will introduce the 2.0L EcoBoost on the Mondeo followed by the Falcon in 2012 in Australia. We will continue to migrate EcoBoost technology aggressively across our product lineup in all regions. By 2013, Ford will have annual volumes of 1.5 million EcoBoost engines globally.

We are also implementing our highly successful SYNC® in-vehicle communication and entertainment system globally. We will begin introducing SYNC in the Asia Pacific and Africa region on the Ford Edge in 2011 and on the Ford Focus in 2012. We plan to implement SYNC in Europe in 2012, initially on the Focus. To date, Ford has built more than 3 million SYNC-equipped vehicles. We are also continuing to add features to the SYNC system. (See the "Drive Smart" Technologies section for details.)

In addition, we are continuing to standardize materials and parts across vehicle lines. This standardization will not only reduce costs, it will increase quality by reducing the number of different parts we test and manufacture. Four years ago we started commodity business plan teams to find the most effective materials and parts standardization opportunities. This approach was further intensified under the collaboration model of ONE Ford. Each commodity plan features detailed assessments of technology developments, cost drivers, sourcing strategies and global supplier assessments.

We maintain global strategies for the top 138 commodities that go into our vehicles. These 138 commodities, from seats to brake discs to powertrain components, represent about 85 percent of our externally purchased commodity costs.

This approach has proven its success with our new Focus, which is built on our global C-segment platform. Parts commonality on the new Focus increased significantly from prior vehicle programs, reaching 80 percent. In addition, about three-quarters of the supply base for the new Focus will be the same wherever the car is built. Moreover, instead of asking for multiple bids from suppliers on components, a practice known as "market-testing," Ford pre-sourced 75 percent of the commodities for the new Ford Focus with its preferred suppliers – more than the Company ever has before. The Ford Fiesta also has a high percentage of common parts; the U.S. Fiesta shares 60 percent of its parts with the European and Asia Pacific versions of the car.

We are also simplifying how we work with our suppliers by reducing complexity and expanding parts commonality, leading to lower development costs and greater economies of scale for the Company's global supply base. Increasing global integration of platforms and parts not only improves our own bottom line and quality, it also improves our suppliers'. For example, by using the same parts across all geographic regions, suppliers can use the same parts for derivatives off a single vehicle platform. This interchangeability of major parts can increase volume per part, allowing suppliers to improve quality and spread the cost of the parts across more vehicles.

Going forward, it will be typical for our global programs to include 80 percent parts commonality, greater than 75 percent pre-sourcing to global suppliers and 100 percent common manufacturing and assembly processes.

By leveraging our global operations, we will be able to deploy our global product development capital and engineering resources to fewer vehicle platforms, drivetrains and powertrains. This commonality of platforms, drivetrains and powertrains, in turn, will reduce complexity in our vehicles and processes. All of these efforts will reduce costs and increase quality. The efficiency and flexibility gains enabled by our ONE Ford plan will allow us to refresh all regional showrooms approximately one-and-a-half times over the 2010–2014 period.

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Improving New Product Development Process

We have realigned our capabilities to deliver better products faster than ever before. We are continuing our investment in flexible manufacturing, which reduces costs for each new product and lets us shift production at an individual plant from model to model to address changes in customer demand quickly. In our flexible manufacturing plants, we are using reprogrammable tooling in the body shop, standardized equipment in the paint shop and a common build sequence in final assembly, so that we can build multiple models on one or more platforms in a single plant.

In our flexible body shops, where sheet metal comes together to form the vehicle's body, more than 80 percent of the body tooling can be programmed to weld a variety of body styles without delays caused by tooling changeover, and we can adjust the mix between models without restrictions. Under traditional systems, unique tooling is required to weld each individual vehicle body style. Running a different body style down the same line traditionally requires considerable additional downtime for physical tooling changeover. Our flexible manufacturing strategy dramatically reduces physical tooling constraints through the use of the programmable tooling technologies that eliminate the need to replace model-specific tooling for locating, clamping and welding. This saves time and limits disruption to the plant's operations.

In our flexible paint shops, we are using standardized equipment capable of painting a vehicle of any size. This not only allows us to transition easily from producing one vehicle to another, it also improves paint quality and minimizes environmental impacts. In part due to the use of standardized equipment, Ford has the best paint durability after three years in service of any automaker and was tied for first place in paint customer satisfaction after three months in service, according to the Global Quality Research System survey conducted for Ford by the RDA Group.

To facilitate flexibility in our final assembly plants, we are designing vehicles so that they are built in the same sequence. This allows us to build different models in the same plant and allows us to respond more quickly to changing consumer needs. It also allows for efficient utilization of people and equipment.

We are also leveraging our plant flexibility to facilitate our transformation to a more balanced portfolio of vehicles. For example, our investment in flexible manufacturing enabled us to move our SUV production from the Michigan Truck Plant into the Kentucky Truck Plant. We were able to consolidate the vehicle lines formerly produced in Michigan into the Kentucky plant in less than three months. The Kentucky plant now produces the full array of Ford's F-Series Super Duty® truck products, as well as the Expedition, Expedition EL, Navigator and Navigator L.

Our investment in flexible manufacturing also is allowing us to more quickly and cost-effectively convert the former Michigan Truck Plant to a car plant (now known as the Michigan Assembly Plant), which began producing the global Ford Focus for the North American market in 2010 for introduction into our dealerships in the first quarter of 2011. This plant utilizes programmable equipment in its body shop, which allows the Company to run multiple body styles down the same production line without requiring considerable downtime for changeover of tooling.

In recent years, Ford has made important strides in assembly plant body shop flexibility in plants such as Chicago Assembly, Oakville Assembly and Kentucky Truck, where significantly different products are built on a common system. Nearly all of our U.S. assembly plants will have flexible body shops by 2012, to enable quick responses to changing consumer demands. And, nearly half of our transmission and engine plants will be flexible, capable of manufacturing various combinations of transmission and engine families.

In our powertrain facilities, flexible manufacturing increases our ability to respond quickly to changing customer demand and reduces costs. In our traditional powertrain facilities, changeover from one product to another typically requires a 12- to 18-month extended shutdown and usually results in significant equipment obsolescence. A flexible system changeover, by contrast, often takes place during regularly scheduled plant shutdowns during the summer and over winter holidays, requiring only a two- to six-week shutdown to implement an entirely new architecture.

Virtual Manufacturing

A key enabler to quickly launching new products in our flexible manufacturing plants is virtual manufacturing. Virtual manufacturing technology allows Ford to quickly add various models into an existing facility – or to reconfigure an existing facility to produce a new model. Every new product is "built" in a virtual manufacturing plant, which contains every tool, station, robot and conveyor, all created via three-dimensional CAD data. This allows the manufacturing engineer and the product development engineer to simultaneously prove out product and process compatibility at least one year before the first physical part is built and two years before the first vehicle is built.

Ford has a range of industry-leading virtual manufacturing and product tools. Many of these are

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- Manufacturing

housed in the Immersive Virtual Review lab in the Product Development Center and the Manufacturing Development Center in Dearborn, Michigan. In these labs, designers and engineers evaluate early vehicle designs against a backdrop of virtual conditions and experience a vehicle from both production workers' and drivers' vantage points before it is built. This helps us create Ford and Lincoln products that provide the "perfect fit" for almost all customer body types. The Product Development Center also houses the Cave Automated Virtual Environment, a Programmable Vehicle Model and a virtual reality station. These technologies utilize advanced motion-tracking equipment and computer software to generate virtual vehicle interiors and exteriors at actual scale, reducing the need to build physical prototypes. This process significantly reduces product development costs and time while improving vehicle quality.

Ford is also the first automaker in North America to use a new virtual technology that allows engineers to "see" unwanted sounds and eliminate them during vehicle development, to further reduce in-vehicle noise. Quiet vehicle cabins are an important element of the customer driving experience and customers' perceptions of overall quality. The technology, called "Noise Vision," uses a small sphere equipped with more than 30 highly sensitive microphones and 12 special cameras. Powerful software reads data from Noise Vision and creates a computerized image showing interior noise "hot spots," including wind noise, a squeak or rattle, or unwanted feedback from the engine or the road. Ford began using this technology to develop new vehicles for the 2010 model year.

Noise Vision has significantly reduced vehicle development time and costs while improving quality. It has allowed Ford's North American NVH (noise, vibration and harshness) engineers to reduce wind tunnel testing time by 200 hours each year – saving more than $300,000 in testing costs. The success of this new technology is also reflected in improved quality ratings. According to one third-party quality survey, Ford has the fewest wind noise, squeak and rattle issues of any full-line vehicle manufacturer. In addition, the RDA Group's Global Quality Research System found that Ford brands have higher interior quietness customer satisfaction scores than our Asian counterparts.

Virtual manufacturing translates into multiple benefits for the Company. For example, incompatibilities are solved on the computer, saving re-work costs and time. Engineers can also see virtual assembly operators "at work" in their stations, ensuring that real operators will be able to safely install each and every part. In addition, Ford has deployed motion-capture technology, which allows an ergonomic specialist to evaluate production operations for attributes that could make it difficult for a line worker in the assembly plant to perform with the required level of quality and safety. These issues with the vehicle's design can then be corrected in the virtual environment before the vehicle goes to production. These technologies result in vehicles that are easier to build and higher quality and processes that result in fewer injuries to our workers. Ford has seen a 75 percent reduction in work-related injuries since the introduction of these proactive processes.

Virtual manufacturing also significantly reduces the time and costs required to develop new vehicles, and it improves quality. Thanks to our use of virtual manufacturing, product development time is approximately 14 months shorter than it was in 2004. Virtual manufacturing is also a cornerstone of our product globalization strategy, in that it allows us to design one product and one process for multiple applications. As part of our integrated, closed-loop feedback and learning process, manufacturing engineers track issues we discover when actually building vehicles and add preventative solutions into the virtual design standards for all future vehicles. We began tracking the number of manufacturing issues in 2005 as a baseline for improvement. As a result of using virtual manufacturing, we have reduced potential manufacturing engineering changes by more than 85 percent.

We are also using virtual technology to improve our market research and design processes. We recently implemented a new product modeling process that uses high-quality digital animation of the vehicle to create virtual models of vehicle concepts and vehicles under development. The process allows designers and market researchers to use digital animation models instead of two-dimensional photos or expensive and time-consuming clay models. This allows more design creativity and flexibility, because design changes can be made "on the fly." It also improves the market research process. Seeing the test vehicle on a 25-foot screen allows the customer to better evaluate the options and offer opinions. It also allows for better comparisons with competitors' products, because both products can be presented in comparable digitized form. Virtual vehicle models significantly reduce market research costs and time because they reduce the need for creating and shipping multiple three-dimensional models. This process, which debuted on the 2010 Ford Taurus, will significantly improve the speed and cost of developing new vehicles. The program helped deliver the new Taurus 12 months sooner and cut research costs by nearly 50 percent.

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Shareholder Relations

We place high importance on our communications with our shareholders and on making sure we meet the highest levels of transparency. We value each of our shareholder's input, regardless of the level of shareholdings, and we give consideration to all information provided to us.

In our annual shareholder meeting, we bring shareholders together with our senior executives. There, shareholders are given an opportunity to make their opinions heard by the most senior leaders of the Company. Shareholders are given an opportunity to express an opinion on topics of interest, either in person at the meeting itself or by submitting proposals in advance. In addition, we have made sure our voting process provides shareholders with a variety of methods of voting, including via web, mail or telephone prior to the meeting or in attendance at the meeting itself.

We also take our financial disclosure process very seriously. We strive to provide information of value in our financial reports filed with the U.S. Securities and Exchange Commission (SEC), and via our quarterly earnings conference calls, monthly U.S. sales calls and participation at key automotive conferences. In addition, our website provides a valuable source of information for shareholders. The website, www.shareholder.ford.com, contains webcasts and presentations from prior conference calls, information on upcoming events and key news events, along with reports we have filed with the SEC and key information about our stock. We also provide an email alert service for people who want to keep abreast of any key new information posted to our site.

Finally, we have a dedicated Investor Relations team in place to maintain ongoing relationships with the financial community and to engage with individual shareholders. Our Investor Relations team may be reached directly at 800-555-5259 or stockinf@ford.com. We have engaged Computershare, an investor services company, to provide transfer agent services for individuals who wish to buy Ford common stock directly. Interested individuals may contact Computershare at 800-279-1237 or via our website at www.shareholder.ford.com.

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Ford Motor Credit Company

Established in 1959, Ford Motor Credit Company is a wholly owned subsidiary of Ford Motor Company that offers automotive financial services to dealerships and customers around the world. Ford Credit's focus is on supporting the sale of Ford vehicles. Its profits and dividends help support Ford's business, including vehicle development.

In North America, Ford Credit does business in every state in the U.S. and all provinces in Canada. Outside the U.S., FCE Bank is Ford Credit's largest operation, serving Europe. The biggest share of FCE's business is in the UK and Germany, with smaller operations in most other European countries. Ford Credit also operates in select markets in Asia, Africa, Central America and South America.

Ford Credit offers a wide variety of automotive financing, insurance and related products. Most financing falls into one of three categories:

- **Retail financing**: Purchasing customer retail installment sale and lease contracts from dealers and offering financing to commercial customers to lease or purchase vehicles.
- **Wholesale financing**: Making loans to dealers to purchase vehicle inventory.
- **Other financing**: Making loans to dealers for working capital, for improvements to dealership facilities, and to purchase or finance dealership real estate.

Ford Credit works on issues of interest to its stakeholders, including the following:

- **Credit Availability**: Ford Credit provides financing for qualified dealers and consumers, utilizing responsible financing and servicing practices. Ford Credit provides financing for customers across the credit spectrum and is committed to treating customers with fairness and respect.
- **Credit Approvals**: Ford Credit has used consistent and prudent credit standards and practices for many years to support Ford Motor Company dealers and customers. Because the company uses proprietary credit originations and collections systems, it can finance a broader range of customers than if it used credit scores alone.
- **Compliance**: Ford Credit uses responsible, consistent and transparent practices globally, and it has stringent procedures designed to ensure that customers are treated fairly and the financing process is understandable. Ford Credit believes it maintains all material licenses and permits required for current operations and is in compliance with all material laws and regulations applicable to the Company and its operations. Ford Credit monitors proposed changes to relevant legal and regulatory requirements in order to maintain its compliance. Through governmental relations efforts, Ford Credit also attempts to participate in the legislative and administrative rule-making process on regulatory initiatives that affect finance companies.
- **Consumer Education**: Ford Credit is a longstanding supporter of, and participant in, financial education through organizations such as AWARE (Americans Well-Informed on Automobile Retailing Economics) and Junior Achievement, as well as in community and educational forums globally. Ford Credit's website, www.fordcredit.com, includes information in English and Spanish to help consumers make informed decisions about vehicle financing.
- **Customer Privacy**: Ford Credit has a policy regarding customer information and privacy and uses systems and procedures to maintain the accuracy of customer information and to protect it from loss, misuse or alteration. Customer information is accessible to appropriate personnel who have a business need for the information. Ford Credit provides training and communications programs to educate personnel about privacy requirements. Beyond protecting customer privacy, Ford Credit continuously uses and works to develop robust processes to produce a superior service experience that ensures that customers are always treated fairly and respectfully.
- **Identity Theft**: Ford Credit is a founding member of the Identity Theft Assistance Center, a nonprofit industry association in which member institutions collaborate to protect their customers from fraud and help them recover if they become victims of ID theft.
- **Technology and Process Improvements**: Ford Credit continuously improves processes and uses technologies that drive efficiency and sustainability. These processes and technologies include: improved and online customer services that facilitate paperless invoices, electronic payments and online credit applications; electronic contract signing; electronic document storage; and software tools and telephony technologies to enhance responsiveness and increase satisfaction for dealers and customers.
- **Community**: Ford Credit has a longstanding commitment to the communities where it does business. This includes providing structured work experience programs for young people. Ford

Related Links

Ford Websites:
- Ford Credit

Credit employees also participate in numerous community activities globally, both during and outside the workday. Examples include personal finance training in schools and community organizations; environmental projects such as river cleanup, park and school beautification and recycling; Juvenile Diabetes Research Foundation walks; the Susan G. Komen Race for the Cure and other activities benefiting medical research or assistance organizations; and drives to collect items such as supplies for schools, food for the hungry, clothing for the needy and necessities for soldiers stationed far from home.

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Financial

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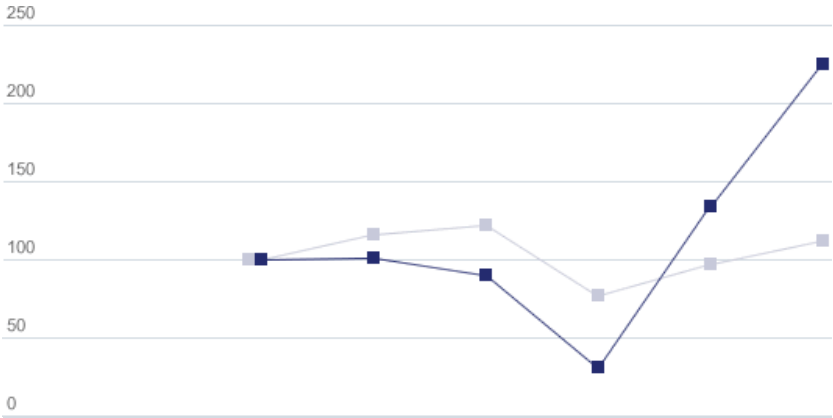
A. Cumulative Shareholder Return



	Base 2005	2006	2007	2008	2009	2010
S&P 500	100	116	122	77	97	112
Ford	100	101	90	31	134	225

Provided by third party: Bowne & Co., Inc.

Notes to Data | Analysis

Updated data to reflect 2005 base.

For more information, please see Ford's Annual Report.

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B. Selected Financial Indicators

	2005	2006	2007	2008	2009	2010
Sales and revenue ($ billion) †	176.8	160.1	172.5	146.3	116.3	129
Income/(loss) from continuing operations ($ billion) †	1.6	(12.6)	(2.8)	(14.7)	2.7	6.6
Net income/(loss) ($ billion) †	1.4	(12.6)	(2.7)	(14.7)	2.7	6.6
Stock price range (per share) ($)	7.57–14.75	6.06–9.48	6.65–9.7	1.01–8.79	1.50–10.37	9.75–17.42
Diluted per share amount of income/(loss) from continuing operations ($) †	0.86	(6.73)	(1.4)	(6.46)	0.86	1.66
Diluted per share amount of net income/(loss) ($) †	0.77	(6.72)	(1.38)	(6.46)	0.86	1.66
Cash dividends per share ($) †	0.4	0.25	0	0	0	0
Automotive gross cash ($ billion)[1]	25.1	33.9	34.6	13.4	24.9	20.5
Shareholder return (percent) ‡	(45)	1	(10.4)	(66)	337	67.9

† Audited for disclosure in the Ford Annual Report on Form 10-K

‡ Provided by third party: Bowne & Co., Inc.

Notes to Data | Analysis

1. Automotive gross cash includes cash and cash equivalents, net marketable and loaned securities and assets contained in a short-term Voluntary Employee Beneficiary Association (VEBA) trust.

For more information, please see Ford's 10-K and 8-K and Annual Report.

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C. Profile of Ford Investors

Percent

	2005	2006	2007	2008	2009	2010
Institutional Investors:	46	54	69	57	47	57
Top 15	27	34	38	33	28	29
Others	19	20	31	24	19	28
Employees and Management	19	19	13	12	9	7
Individuals[1]	35	27	18	31	44	36

Provided by third party

Notes to Data | Analysis

1. The ownership by individuals includes shares owned by the Ford family and by Ford employees and management outside of the Company savings plans.

For more information, please see Ford's Annual Report.

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D. Worldwide Taxes Paid

$ million

	2005	2006	2007	2008	2009	2010
U.S. (Federal, State and Local)	1,317	1,121	1,299	780	674	617
Non U.S.	3,185	3,429	4,420	4,016	2,314	2,313
Total	**4,502**	**4,550**	**5,719**	**4,796**	**2,988**	**2,930**

Notes to Data | Analysis

Data for 2005 and 2006 exclude Federal refunds. Prior-year tax has been restated in order to include certain types of duty that were not included in the reports for prior years.

For more information, please see Ford's 10-K and 8-K.

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Product, Quality and Service

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A. GQRS Things Gone Wrong (TGW) (three months in service)

Chart | Table

Total things gone wrong per 1,000 vehicles

Total things gone wrong per 1,000 vehicles

2005	2006	2007	2008	2009	2010
1,846	1,586	1,405	1,287	1,206	1,140

Third party rating

Notes to Data | Analysis | Related Links

The Global Quality Research System (GQRS) is a Ford-sponsored competitive research survey. The GQRS is a good indicator of other quality results.

Ford and Honda were statistically equal and had the fewest number of vehicle defects or "things gone wrong" (TGW) among full-line manufacturers in 2010, capping six years of improvement. We have achieved these quality improvements by using our rigorous Global Quality Operating System, including cutting-edge virtual manufacturing.

In This Report:

- Customer Satisfaction and Quality

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B. GQRS Customer Satisfaction (three months in service)

Chart | Table

Percent satisfied

Percent satisfied

2005	2006	2007	2008	2009	2010
73	74	76	77	80	82

Third party rating

Notes to Data | Analysis | Related Links

The Global Quality Research System (GQRS) is a Ford-sponsored competitive research survey. The GQRS is a good indicator of other quality results.

Customer satisfaction rose to 82 percent, a 2 percentage-point gain over 2009 and statistically better than Toyota and Honda. This gain is largely the result of introducing high-quality, exciting new products.

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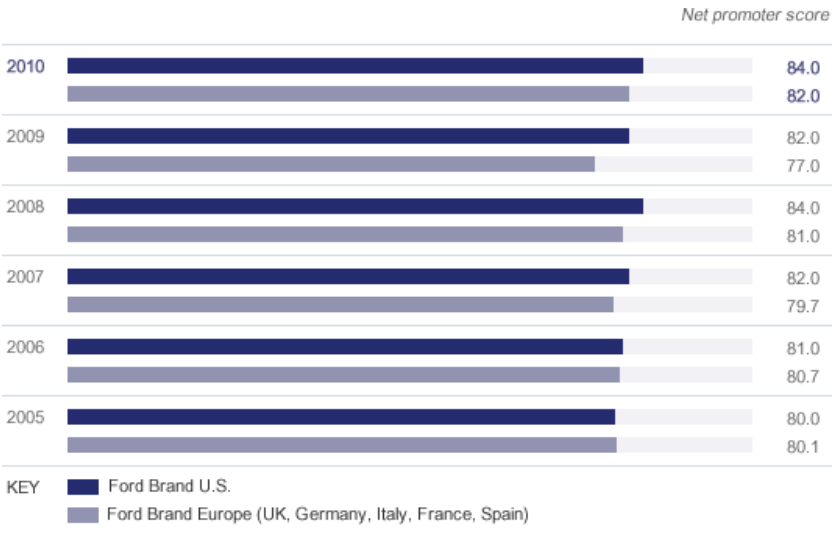
C. Sales Satisfaction with Dealer/Retailer

Chart | Table



Net promoter score

	2005	2006	2007	2008	2009	2010
Ford Brand U.S.	80.0	81.0	82.0	84.0	82.0	84.0
Ford Brand Europe (UK, Germany, Italy, France, Spain)	80.1	80.7	79.7	81.0	77.0	82.0

Related Links

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- Customer Satisfaction and Quality

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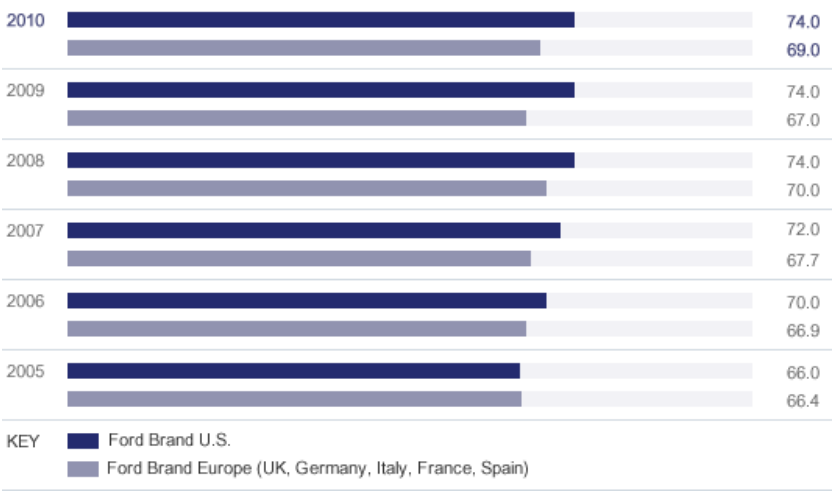
D. Service Satisfaction with Dealer/Retailer

Chart | Table

Net promoter score



Net promoter score

	2005	2006	2007	2008	2009	2010
Ford Brand U.S.	66.0	70.0	72.0	74.0	74.0	74.0
Ford Brand Europe (UK, Germany, Italy, France, Spain)	66.4	66.9	67.7	70.0	67.0	69.0

Notes to Data | Related Links

Prior to 2008, only warranty repair visits were measured. Starting in 2009, customer-paid repair and maintenance visits are also included. These additions have had a small negative impact on the 2009 score. The improvement from 2004 is significant.

In This Report:

- Customer Satisfaction and Quality

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Market Share and Sales

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A. Ford Motor Company Market Share – United States

Chart | Table

Percent

2005	2006	2007	2008	2009	2010
18.2	17.1	15.6	14.2	15.3	16.4

Reported to regulatory authorities

Analysis | Related Links

Ford gained over a percentage point in market share in the U.S. in 2010, its second market share gain since 1995.

In This Report:

- Regional Performance Highlights

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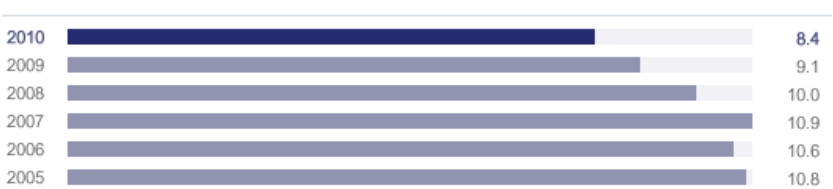
B. Ford Motor Company Market Share – Europe

Chart | Table



Percent

2005	2006	2007	2008	2009	2010
10.8	10.6	10.9	10.0	9.1	8.4

Reported to regulatory authorities

Notes to Data | Analysis | Related Links

Annual market share data through 2008 included Volvo.

Ford lost overall market share slightly in the 19 main European markets, ending the year at 8.4 percent market share, down 0.7 percentage points from year-end 2009. However, Ford gained market share in Sweden and Denmark.

In This Report:

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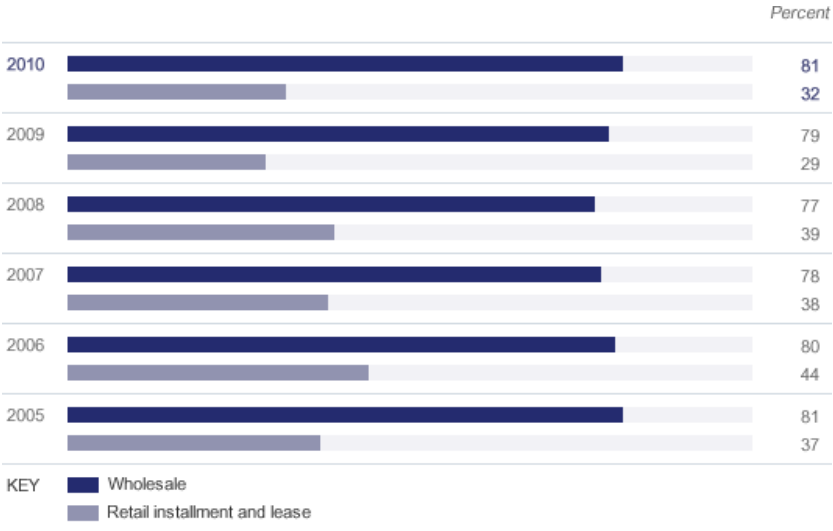
C. Ford Credit Financing Share – United States

Chart | Table



Percent

	2005	2006	2007	2008	2009	2010
Wholesale	81	80	78	77	79	81
Retail installment and lease	37	44	38	39	29	32

Reported to regulatory authorities

Notes to Data | Analysis | Related Links

These data include Ford, Lincoln and Mercury brands only.

For more information on Ford Credit, please visit www.fordcredit.com. For more information on Ford Credit financial information, visit the Ford Credit investor center.

In This Report:

- Ford Motor Credit Company

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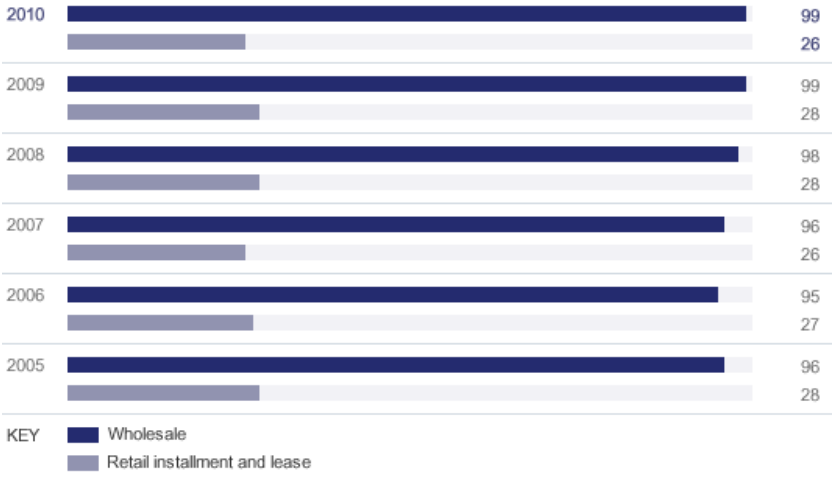
D. Ford Credit Financing Share – Europe

Chart | Table

Percent



Percent

	2005	2006	2007	2008	2009	2010
Wholesale	96	95	96	98	99	99
Retail installment and lease	28	27	26	28	28	26

Reported to regulatory authorities

Notes to Data | Analysis | Related Links

These data include Ford brand only.

For more information on Ford Credit, please visit www.fordcredit.com. For more information on Ford Credit financial information, visit the Ford Credit investor center.

In This Report:

- Ford Motor Credit Company

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E. Summary of Vehicle Unit Sales

Chart | Table

Thousands

Thousands

2005	2006	2007	2008	2009	2010
6,767	6,597	6,553	5,407	4,817	5,524

Related Links

In This Report:

- Regional Performance Highlights

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F. Ford Fleet Sales

Chart | Table

Units sold

Units sold

2005	2006	2007	2008	2009	2010
854,000	902,000	744,000	607,000	488,000	618,000

Reported to regulatory authorities

Related Links

In This Report:

- Regional Performance Highlights

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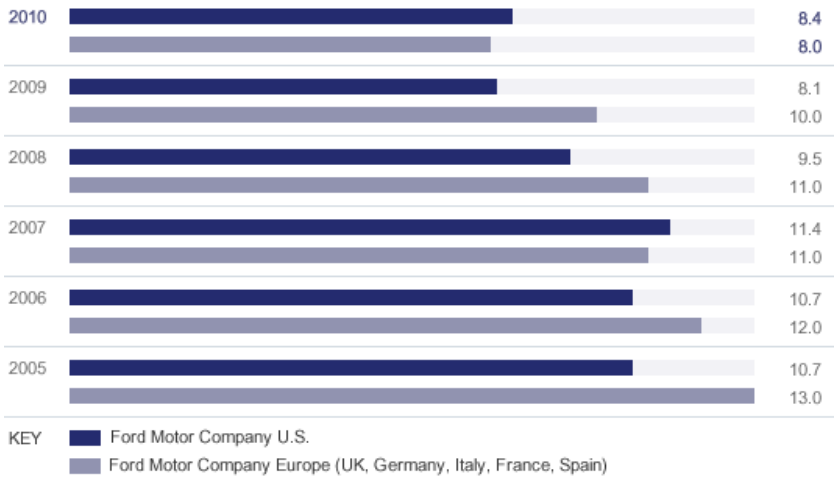
G. First-Time Ford Buyers (Owners Who Acquired a New Vehicle for the First Time)

Chart | Table

Percent of first-time buyers



Percent of first-time buyers

	2005	2006	2007	2008	2009	2010
Ford Motor Company U.S.	10.7	10.7	11.4	9.5	8.1	8.4
Ford Motor Company Europe (UK, Germany, Italy, France, Spain)	13.0	12.0	11.0	11.0	10.0	8.0

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- Customer Satisfaction and Quality

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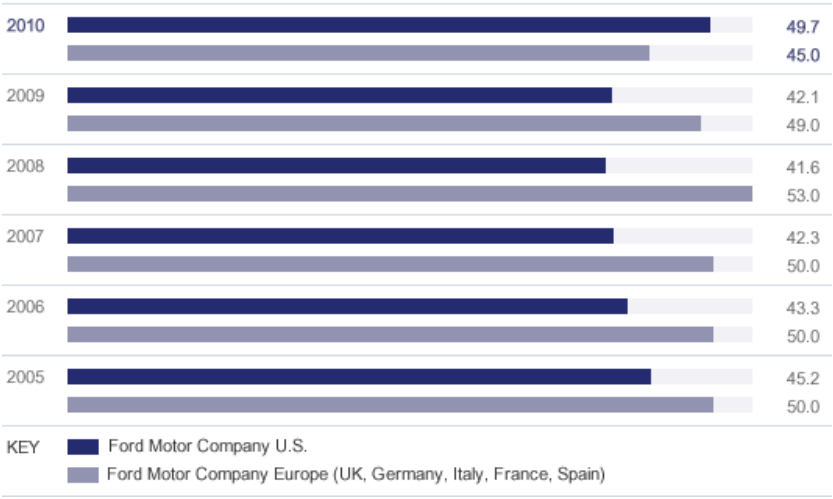
H. Owner Loyalty (Customers Disposing of a Ford Motor Company Product and Acquiring Another)

Chart | Table

Percent loyal to corporation



Percent loyal to corporation

	2005	2006	2007	2008	2009	2010
Ford Motor Company U.S.	45.2	43.3	42.3	41.6	42.1	49.7
Ford Motor Company Europe (UK, Germany, Italy, France, Spain)	50.0	50.0	50.0	53.0	49.0	45.0

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- Customer Satisfaction and Quality

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Innovation

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A. U.S. Utility Patents Issued to Ford and Subsidiaries

Chart | Table

Number of patents issued

Number of patents issued

2005	2006	2007	2008	2009	2010
342	387	357	343	325	430

Notes to Data

Utility patents are patents that cover the useful features of an invention, and these are measures of technological innovation. We have generated a large number of patents related to the operation of our business and expect this portfolio to continue to grow as we actively pursue additional technological innovation. The average age for patents in our active patent portfolio is five years.

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Case Studies

IN THIS SECTION

Case Study: Economic Impacts of the Auto Industry

The automotive industry is a major contributor to national and global economies. From 2000 to 2010, the industry contributed an average of 3.6 percent of the U.S. Gross Domestic Product – or nearly $444 billion.

READ MORE

Case Study: Sustainable Growth in Asia

The largest – and fastest-growing – consumer demand for automobiles today is occurring in Asia, particularly in China and India. To meet that demand, we have been exponentially increasing our production capacity in China, India and Thailand, making significant investments to build new plants and enlarge existing facilities.

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Case Study: Economic Impacts of the Auto Industry

The automotive industry is a major contributor to national and global economies. From 2000 to 2010, the industry contributed an average of 3.6 percent of the U.S. Gross Domestic Product – or nearly $444 billion. In 2010, the industry employed approximately 2.3 million people in the U.S. at automotive manufacturers, supplier businesses and dealerships. Of this total, nearly 684,000 worked directly for automakers and suppliers. Wage and salary compensation in the industry is substantial. In the U.S., for example, the average weekly earnings of automotive production workers are double the average weekly earnings for all of the private hourly production workers.

Motor vehicles and auto parts represent the single-largest export sector in the U.S., with an average of $107 billion worth exported from 2005 to 2010. The auto industry is a leader among U.S. manufacturing industries in research and development investment, spending approximately $16 to $18 billion each year on research and product development. Ford alone spent approximately $16.8 billion on engineering, research and development activities in the U.S. from 2008 to 2010.[1]

The influence of the automotive industry is quite broad. In the U.S., the auto industry supports jobs and economic benefits through related employment at dealers, suppliers and service shops, and through the expenditures of people employed by those industries. One recent study found that approximately 8 million private-sector jobs are impacted by U.S. auto manufacturers, suppliers and dealers, and the industry contributes more than $500 billion in compensation annually.[2] The auto industry has one of the highest multipliers of any industry in the U.S. economy, and is sufficiently large that its growth or contraction can be detected by changes in the GDP. Studies have shown that, if the domestic auto industry were to fail, up to 3 million direct and indirect jobs would be lost in the first year.[3] This same study said the loss of the domestic auto industry would also reduce personal income in the U.S. by more than $398 billion over three years and would cost the government more than $156.4 billion over three years, due to increased transfer payments, decline in Social Security income and decline in personal income taxes.

1. Pre-2010 data adjusted to reflect the impact of the accounting standard on the consolidation of variable interest entities (VIEs).
2. Hill, Kim et al. 2010. *Contribution of the Automotive Industry to the Economies of All 50 States and the U.S.* Available at the Center for Automotive Research website.
3. David Cole, et al. 2008. *CAR Research Memorandum: The Impact on the U.S. Economy of a Major Contraction of the Detroit Three Automakers.* Available at the Center for Automotive Research website.

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- Society

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Case Study: Sustainable Growth in Asia

The largest – and fastest-growing – consumer demand for automobiles today is occurring in Asia, particularly in China and India. In 2010, auto sales in China alone reached more than 18 million – a stunning 10-fold increase from a decade earlier. And the numbers are only expected to grow. By 2020, annual vehicle sales in the Asia Pacific region will likely top 52 million vehicles.

At Ford, we project that 70 percent of our growth over the next decade will occur within the Asia Pacific region. To meet that demand, we have been exponentially increasing our production capacity in China, India and Thailand, making significant investments to build new plants and enlarge existing facilities. These expansions represent the largest growth our Company has witnessed in 40 or 50 years.

Our investments in the Asia Pacific region include the following:

- In Chennai, India, we are spending $500 million to double engine production capacity to 250,000 engines.
- In China, we are currently building two new plants: one in Chongqing with our joint venture partner Changan Ford Mazda Automotive (CFMA), and one in Nanchang with Jiangling Motors Corp (JMC). The $300 million Nanchang assembly plant will have the capacity to produce up to 300,000 Ford- and JMC-branded vehicles per year. In addition, we have recently signed a memorandum of understanding with CFMA to build a second new engine plant – this one for $500 million – in Chongqing.
- In Thailand, construction is underway on a new $450 million Ford assembly plant, scheduled for completion in 2012, to build the Ford Focus. And in 2010, Ford and Mazda Motor Corporation announced an additional investment of $350 million in our Auto Alliance Thailand (AAT) joint venture for pickup truck production.

As we make new investments, we look for ways to build plants that are economically, environmentally and socially sustainable – not only for Ford, but for the communities in which we operate. We are working to have positive impacts on the people who work and live near our plants by providing jobs and expanding economic opportunities. And we seek to have positive impacts on the environment by using best practices in the plants we build and by offering advanced, fuel-efficient vehicles to our Asian consumers.

Before building a new plant, our standard practice is to review a range of factors to determine the most suitable site. Ford Land's Site Selection Matrix includes criteria such as:

- The presence of wetlands
- Water and utility infrastructure, including water quality and the water table
- Soil and topography suitability
- The cost of water and other utilities
- Proximity to suppliers, landfills and industrial waste management capacity
- Logistics options, including rail and sea
- The availability of road infrastructure
- The availability of sanitation and wastewater treatment
- Employee commute time

Building Economic Opportunities

Our new plants will support local jobs and economic growth in Asia through direct employment and by creating economic opportunities for local suppliers and supporting businesses. For example, the expansion of our plant in Chennai, India, is expected to create 1,000 new local jobs. Our new Focus plant in Thailand is expected to provide up to 11,000 new jobs: 2,200 direct jobs with Ford, and 8,800 indirect jobs through our supplier and dealer networks. Once this latter plant is complete, we also expect to purchase $800 million in local components.

Our new Asian plants will also use our latest flexible manufacturing technologies, which allow us to shift production from one vehicle to another to meet changing customer demands with little time and money required for retooling. This means we will be better able to match our manufacturing capacity with demand to maintain production and support of local employment even if our markets change rapidly.

Reducing the Environmental Impacts of Our Plants

The construction of any new facility has the potential for environmental effects, ranging from impacts on land and nature to air and water emissions to increased demand for water and other

Related Links

This Report:

- Investing in Operations
- Manufacturing
- EcoBoost™
- Non-CO_2, Facility-Related Emissions

Vehicle Websites:

- Ford Fiesta
- Ford Figo
- Ford Mondeo

resources. We aim to minimize our environmental impacts by finding ways to reduce our use of water and other natural resources, and we attempt to mitigate biodiversity risks.

As part of our facility planning process, we have implemented new building standards that incorporate environmental best practices developed at our global facilities. We also consider LEED (Leadership in Energy Efficient Design) standards when developing new plants. Though we are not currently pursuing LEED certification for new manufacturing facilities, the standards provide useful guidance for designing energy-efficient and environmentally sustainable buildings and landscapes. Our building standards include:

- The use of advanced water-treatment technologies that allow for water reuse and that reduce water supply requirements, water discharges, the use of treatment chemicals and the generation of solid waste
- The application of dry metal machining to reduce oil use, wastewater generation, energy use and air emissions
- The advanced control of air compressors, high-efficiency lights and variable-drive electric motors to significantly reduce energy usage and monitor equipment performance
- Skylights and monitors to take advantage of natural light and reduce lighting energy requirements
- The recirculation of paint booth air and three-wet paint application to reduce the energy required for high-quality painting
- Advanced automated paint application equipment to reduce paint usage, air emissions and waste generation
- Reusable containers for shipping parts and materials
- The recovery of heat for process use from large electric motors
- The use of white roofing material to reduce energy use for cooling

Our new and expanded plants in India, Thailand, and Chongqing, China, will use our environmentally friendly "three-wet" paint process, which reduces carbon dioxide emissions by 15 percent and volatile organic compound (VOC) emissions by 10 percent from our paint shops. In addition to these environmental benefits, this process maintains industry-leading quality and reduces costs. Our new Focus assembly plant in Thailand will also feature an on-site wastewater treatment facility, energy-efficient lighting, natural ventilation in the body shop and final assembly buildings and the use of local and recycled materials. These plants will incorporate other environmentally friendly designs and technologies, including the following:

- New facilities in China are using advanced ultrafiltration water treatment technologies that enable improved treatment and reuse of the wastewater in the facility and significantly reduce the use of chemicals and the generation of solid waste associated with older treatment technologies. Additional benefits include reduced use of water and reduced waste water discharge volumes. The reclaimed water can be used for site irrigation, restrooms or even as process feed water, depending on the source of the wastewater and the secondary treatment technologies employed.
- High-efficiency lighting systems and daylighting are used in all of our new Asia Pacific and Africa region facilities, to reduce energy use and improve working conditions.
- Advanced energy management systems that control the use of electricity, motors and compressed air are included in the design of all new facilities in the Asia Pacific and Africa region, to provide power only when and where it is needed.
- Booth air recirculation is considered for every new assembly plant paint shop and often employed to reduce the energy needed to treat the paint booth supply air, which requires very precise temperature and humidity control. The new Focus plant in Chongqing and the new Transit Plant in Nanchang, both currently under construction, will employ paint booth recirculation.
- The new facilities are designed with significant green space, including vegetation irrigated with stormwater, pond water or in some cases recycled water from the facility. Stormwater management retention ponds are also used to keep any water-borne contaminants from leaving the site.
- Low- and no-VOC paints, floor coverings, wall coverings and other finishes are also being employed.

In 2010, to ensure continued improvement in environmental performance, Ford completed the full global implementation of an Environmental Operating System, which helps manage an ever-increasing range of external regulations and internal performance objectives more effectively and with fewer resources. As part of the environmental performance management process, manufacturing and environmental experts help each facility implement operational and infrastructure improvements that improve efficiency and reduce the use of electricity, fuel and water. We are making improvements all the time. For example, we have installed high-efficiency lights and motors, and advanced energy control and monitoring equipment, in our existing Asian plants.

Delivering More Sustainable Products

We are bringing fuel efficiency and low emissions to Asian consumers by offering our advanced environmental vehicle technologies. For example, we introduced the fuel-efficient EcoBoost™ engine and PowerShift transmission technologies in China in 2010 on the Ford Mondeo, and in Thailand, we introduced EcoBoost on the Fiesta. In India, we recently introduced the Ford Figo, which has highly fuel-efficient 1.4L TDCi diesel and 1.2L gas engine options. The diesel Figo has unsurpassed fuel economy in its segment. These vehicles show how we are delivering on our commitment to bring more sustainable transportation to all the markets we serve.

We have aggressive growth plans for the Asian region, so we will be equally aggressive in our efforts to develop in a sustainable, responsible manner. As we continue to announce and build new plants and expand vehicle production around the globe, we are working to make sure we are delivering on our promise to deliver both great products and a better world to all the communities in which we operate.

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Environment

2010 HIGHLIGHTS...

- Among *Newsweek's* Top 100 Green Companies for the second consecutive year
- Received the Energy Star Sustained Excellence Award for the sixth consecutive year
- Reduced landfill waste per vehicle by 12.4 percent, relative to 2009
- Continued to expand our standards and requirements for sustainable materials

This section reports on the environmental impacts of our operations, including those from our products, our manufacturing processes and our facilities and properties. For a high-level view of impacts throughout our value chain, please see Our Value Chain and Its Impacts.

Assessing Materiality

The materiality analysis used to plan this report identified eight environment-related issues as among the most material:

- Low-carbon strategy
- Vehicle greenhouse gas (GHG) emissions
- Fuel economy
- Cleaner technologies
- Public policy: GHG/fuel economy regulation
- Vehicle electrification
- Water strategy
- Supply chain environmental sustainability

The analysis also revealed a global theme of increasing expectations regarding, and regulation of, a range of environmental issues associated with our products and manufacturing facilities. These issues include energy and water use (due to rising costs and concerns about long-term availability); tailpipe emissions and end-of-life management (due to increasing regulation); and product materials use (due to opportunities to improve the sustainability of vehicles and cut costs through “cradle-to-cradle” solutions).

Some of these topics are covered in this section, while others are covered in the Climate Change section, the Water section and the Supply Chain section.

Precautionary Principle

The precautionary principle is the idea that if the consequences of an action are unknown, but are judged to have some potential for major or irreversible negative consequences, then it is better to avoid that action. We do not formally apply the precautionary principle to decision making across all of our activities. However, it has influenced our thinking. For example, in addressing climate change as a business issue, we have employed this principle. In addition, we assess and manage environmental, safety, supply chain, operational and other risks as described throughout this report.

Related Links

This Report:

- Our Value Chain and Its Impacts
- Materiality Analysis
- Climate Change
- Water
- Supply Chain

ENVIRONMENT
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Progress and Goals

Progress | Goals

Progress

In 2010, Ford made significant progress on the environmental aspects of our products and operations. For example:

- In 2009, we committed that every all-new or redesigned vehicle we introduce will be the best in class or among the best in class for fuel economy in its segment. Since then, we have followed through on this commitment with vehicles introduced in both the U.S. and Europe, and we will continue to do so with future product launches. In 2010, we developed carbon dioxide (CO_2) reduction targets for all of our facilities, following the same science-based process used to develop our CO_2 reduction targets for vehicles. These targets are based on the CO_2 reductions that will help stabilize atmospheric carbon dioxide at 450 ppm.
- For the 2010 model year, our fleet CO_2 emissions increased slightly by about 1 percent relative to the 2009 model year, but improved 11 percent compared to the 2006 model year. Preliminary data for the 2011 model year project that the Corporate Average Fuel Economy (CAFE) values for the car and truck fleets will be about the same as the car and truck fleet averages for the 2010 model year. On an overall fleet basis, preliminary estimates indicate a 2011 CAFE improvement of 2.9 percent compared to 2010.
- We are continuing to expand corporate standards and requirements for sustainable materials and in-vehicle air quality. We are developing in-vehicle air-quality specifications, which we plan to roll out to all of our operating regions over the next few years. We are expanding the use of recycled and renewable materials across vehicle lines. And, we are continuing to develop new applications for sustainable materials. As of 2011, all of our vehicles produced in North America use soy foam seating.
- In 2010 we developed and adopted a global water strategy. This strategy includes a strong focus on understanding and reducing water risks in the water-scarce regions in which we operate. It also addresses water use throughout our supply chain. We began implementing this strategy in 2011.
- In 2010, we completed the global implementation of our Environmental Operating System – including metrics, data collection and reporting – in all of our plants in all regions. Also in 2010, our Powertrain Operations (PTO) completed the global implementation of the Sustainability Tracking and Rating system to encourage the implementation of environmental manufacturing best practices in all new PTO programs.
- For the sixth consecutive year, we received the Energy Star Sustained Excellence Award from the U.S. Environmental Protection Agency and the U.S. Department of Energy. This award recognizes Ford's continued leadership in and commitment to protecting the environment through energy efficiency.
- From 2000 to 2010, we reduced CO_2 emissions from our facilities by a total of approximately 49 percent and on a per-vehicle basis by 30 percent.
- We continued our leadership in facility greenhouse gas reporting in 2010. Voluntary GHG reports were developed for all four Ford manufacturing sites in China.
- We continued to reduce water use and waste sent to landfill on a per-vehicle basis in 2010. We reduced global water use per vehicle by 8 percent and landfill waste per vehicle by 12.4 percent, relative to 2009.
- We introduced packaging guidelines for the transport of parts and materials used in Ford vehicles. These guidelines require supplier-provided packaging to support corporate sustainability goals by seeking a neutral or positive environmental footprint through zero waste to landfill and the use of 100 percent recycled, renewable or recyclable materials.

Related Links

This Report:
- Climate Change
- Water
- Sustainable Materials
- Ford's Goals, Commitments and Status

2010 Year-Over-Year Environmental Performance Metrics and Goals

Products

Goal	2010 Accomplishments
Product Sustainability Index (PSI)	

Expand use of the PSI and Design for Sustainability principles in product development	All-new Ford Fiesta, introduced in North America in 2011, designed using PSI • All new 2012 Ford Focus, to be introduced in North America in 2011, designed using PSI
Sustainable Materials	
Increase the use of recycled, renewable and lightweight materials	• Expanded use of soy foam seating; from 2011 on, all vehicles produced in North America have soy foam seating • Introduced soy foam headliner • Introduced wheat-straw-reinforced plastics • Expanded use of recycled-content fabrics for seats and headliners • Continued to develop strategy requiring recycled plastics and textile materials for many applications in North America
Increase the use of and certification for allergen-free and air-quality-friendly interior materials	• Established global design guidelines for allergen-free materials and in-vehicle air filtration that are being migrated across product lines
Eliminate mercury and lead content in vehicles	• As of 2009, all Ford, Lincoln and Mercury vehicles in the U.S. are mercury-free, with the exception of the Lincoln Town Car, which uses mercury in its high-intensity discharge headlamps • Have eliminated use of lead wheel weights in North America and Europe
Product Fuel Economy and Greenhouse Gas Emissions	
Do our share to stabilize carbon dioxide (CO_2) concentrations in the atmosphere at 450 ppm, the level generally accepted to avoid the most serious effects of climate change.	• Expanded the climate stabilization analysis that we had undertaken previously for the U.S. and Europe to the other regions in which we operate. This analysis defines the emission reductions needed to meet our stabilization commitment. • Further developed our electrification strategy and launched our first electric vehicle. • Reduced fleet-average CO_2 emissions from our 2010 model year U.S. and European new vehicles by 10.5 percent and 8.1 percent, respectively, compared to the 2006 model year.[1] • Announced three more engines with our patented EcoBoost™ fuel-saving technology. By 2013, we expect to be producing approximately 1.5 million EcoBoost engines globally, about 200,000 more than originally expected. • Offered four models in North America that provide 40 miles per gallon or better – compared to 2009, when our most fuel-efficient vehicle achieved 35 miles per gallon. • Offered 18 models in Europe that achieve a CO_2 emission level of 130 grams per kilometer, and two that achieve less than 100 grams per kilometer.
Have every all-new or redesigned vehicle we introduce be the best in class or among the best in class for fuel economy in its segment	• Since 2009, have followed through on this commitment with vehicles introduced in both the U.S. and Europe, and we will continue to do so in future product launches

Facilities

Metric	2010 Target	2010 Actual	2011 Target
Energy Use			
Facility energy efficiency (global)	3% improvement	5.6% improvement[2]	3% improvement
Facility energy efficiency (U.S.)	3% improvement	4.6% improvement[3]	3% improvement
Energy use	No specific goal; continue use reductions	44% improvement compared to 2000 levels	No specific goal; continue use reductions
Emissions			
VOC emissions from painting at North American assembly plants	Maintain 24 g/sq meter or less	21.6 g/sq meter	Maintain 23 g/sq meter or less
Water Use			
Water use (global)	6% per unit reduction from 2009[4]	8% reduction	5% per unit reduction from 2010
Waste Production			
Landfill waste (global)	10% per unit reduction from 2009[5]	12.4% reduction	10% per unit reduction from 2010

1. Please see Sue Cischke's letter for a discussion of our CO_2-reduction goal for North America and Europe.
2. Energy efficiency is calculated in million BTUs per unit. For our global efficiency calculation, energy use is not adjusted for variances in production or weather.
3. The North American Energy Efficiency Index is a normalized indicator based on a calculation that adjusts for typical variances in weather and vehicle production. The Index was set at 100 for the baseline year 2006 to simplify tracking against our annual 3 percent energy efficiency target. A year 2000 baseline was used through 2006; the baseline will be reset to year 2010 starting in 2011. The year 2010 improvement indexed against the year 2006 baseline was 14.4, indicating a 14.4 percent improvement in energy efficiency since 2006.
4. Starting in 2010, our main water reduction target was set and tracked on a per-vehicle basis as opposed to a total global reduction, as has been done in previous years.
5. Starting in 2010, our main waste reduction target was set and tracked on a per-vehicle basis as opposed to a total global reduction, as has been done in previous years.

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Environmental Management

Ford has an environmental Policy and environmental Directives that apply to our operations globally (see our Code of Conduct Handbook). All Ford manufacturing facilities and product development functions are certified to ISO 14001, the leading global standard for managing environmental issues. In addition, we have asked our preferred "Q1" suppliers of production parts to certify their facilities. These commitments place our most significant potential environmental impacts under one comprehensive environmental management system.

In this section, we report on the environmental management systems we use in manufacturing and product development, as well as with our supply chain, to ensure that environmental issues are addressed.

Related Links

This Report:

- Supply Chain Environmental Sustainability

Corporate.ford.com:

- Code of Conduct Handbook

Manufacturing

Ford's manufacturing management sets environmental targets annually for all of our facilities. We develop these targets through a comprehensive process that considers past performance, future regulation trends, environmental technology advances, financial conditions and other relevant factors. Global targets are translated into regional- and facility-level targets, which differ depending on the relevant regulations and financial and production constraints in each region.

Ford's Vehicle Operations (VO) and Powertrain Operations (PTO) functions are implementing systems to track and enhance the sustainability of new programs. In 2010, PTO completed global implementation of the Sustainability Tracking and Rating system (STAR) to further enhance the implementation of environmental manufacturing best practices in all new PTO programs. The STAR system uses a one- to five-star rating system to evaluate new programs based on how well they incorporate environmental best practices from a continually updated list. The list of best practices includes initiatives to reduce energy, water, waste and hydrocarbon (lubricating oil). To encourage constant improvement, once a best practice becomes the standard, it is removed from the list and can no longer count as an improvement under the STAR system.

In 2010, Ford completed the full global implementation of an Environmental Operating System (EOS). As a counterpart to our Quality Operating System, the EOS provides a standardized, streamlined approach to maintaining compliance with all legal, third-party and Ford internal requirements, including government regulations, ISO 14001 and Ford's own environmental policies and business plan objectives and targets. The EOS drives compliance responsibility to the operations level by assigning compliance-related tasks to the appropriate personnel and tracking the completion of those tasks. The system also standardizes tracking and reporting systems, which simplifies compliance, reporting and analysis at all levels of the Company. This system allows us to manage an ever-increasing range of external regulations and internal performance objectives more effectively and with fewer resources. For example, the average plant has to comply with approximately 90 corporate requirements, 100 to 400 national regulations and 200 plant-specific requirements. The EOS consolidates all of these requirements into easy-to-follow tracking and reporting systems organized by recurring tasks, non-recurring tasks and critical tasks.

Ford has moved to a single group ISO 14001 certification for its plants in North America. All plants and Ford Customer Service Division facilities in North America share this group certification. Likewise, South American plants share a single group certification. Group certification saves time and money, with no degradation in plant environmental performance.

In 2007, we implemented the Global Emissions Manager (GEM) database, which provides a globally consistent approach for measuring and monitoring environmental data. This system helps us track our efforts to reduce water consumption, energy use, carbon dioxide emissions and the amount of waste sent to landfill. The data that GEM provides and the level of analysis it allows also helps us set more effective environmental management targets and develop more specific strategies for improving environmental performance. We are continuing to add metrics and tracking systems to GEM to further enhance our environmental management objectives.

We are also implementing corporate design specifications for the development of new plants, to make them more sustainable. These specifications require that new manufacturing facilities be designed and constructed using the best practices Ford has developed at plants all over the world. These standards will act to replicate best practices across our global operations and create efficient and sustainable plants.

For more information on our new plant development standards please see Green Buildings. For more information on our plans to develop new plants in Asia, please see Case Study: Sustainable Growth in Asia.

Related Links

This Report:
- Green Buildings
- Case Study: Sustainable Growth in Asia

Product Development

In Ford's Global Product Development System, environmental objectives – including targets for fuel economy, vehicle emissions, the use of recycled and renewable materials, and restrictions on substances of concern – are defined at the outset of the design process for every new Ford vehicle. We track our progress toward these targets throughout product development.

As part of our ONE Ford global integration process, we are developing targets for a range of vehicle attributes, including for fuel economy, quality and safety that aim to make our vehicles either leaders or among the leaders compared to competitor vehicles in the same segments. We develop these competitive vehicle attribute targets for every vehicle program, to deliver on key customer demands and Ford strategies, by using a range of consumer data, internal brand data and competitor vehicle data. Based on this process, in 2009 we committed that every all-new or redesigned vehicle we introduce will be the best in class or among the best in class for fuel economy in its segment. Since that time, we have followed through on this commitment with vehicles introduced in both the U.S. and Europe, and we will continue to do so in future product launches. For examples of 2010 and 2011 vehicles that meet this commitment, please see Vehicle.

In addition, we have identified global leaders and attribute teams within Ford who coordinate the development of the global product attribute targets in key areas such as sustainable materials, recycling, materials of concern, vehicle interior air quality and vehicle lifecycle issues. These leaders coordinate the global implementation of our corporate sustainability strategies and support our ONE Ford strategy to harmonize product development across regions.

We use our Design for Environment (DfE) tool to bridge the gap between product development and environmental management. DfE uses simplified lifecycle assessments and cost calculations, substance restrictions, checklists and other tools to identify and reduce significant impacts. We are continuing to broaden the range of issues we consider in our product development process as we move from Design for Environment to Design for Sustainability (DfS). Ford of Europe's Product Sustainability Index is incorporating DfS principles, to improve each vehicle's environmental, social and economic performance.

Related Links

This Report:

- Vehicle
- Product Sustainability Index
- Working as One Team

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Suppliers

ISO 14001 certification is expected of all "Q1," or preferred, production suppliers, as well as nonproduction supplier facilities if the supplier has a manufacturing site or a nonmanufacturing site that ships products to Ford and has significant environmental impacts.

We are continually improving our systems for influencing the integration of sustainability throughout our supply chain. We began this process by requiring all of our Q1 suppliers to obtain ISO 14001 certification, and in 2006 we attained our goal of having 100 percent of our Q1 production suppliers gain ISO 14001 certification for facilities supplying Ford. We also encourage our suppliers to extend the benefits of improved environmental performance by requiring their own suppliers to implement environmental management systems as well.

We work in cross-industry forums to encourage common approaches to the supply chain challenges of our industry. Since 2007, for example, we have been a member of the Suppliers Partnership for the Environment, an innovative partnership between automobile original equipment manufacturers, their suppliers and the U.S. Environmental Protection Agency. This partnership works to create new and innovative business-centered approaches to environmental protection and provides a forum for small, midsize and large automotive and vehicle suppliers to work together, learn from each other and share environmental best practices.

In 2006, we introduced our Aligned Business Framework (ABF), a strategy for working more closely with key suppliers to lower costs and improve quality. As part of this framework, ABF suppliers commit to managing and assuring proper working conditions and responsible environmental management in their facilities and in their supply chain.

Our work with ABF suppliers to date has focused on providing support and resources to help them align with Ford's Code of Basic Working Conditions and implement supporting processes, including responsible environmental management systems. Ford has committed to providing suppliers with a range of support and assistance based on our experiences in this area. During the fourth quarter of 2009, we held sustainability sessions in Dearborn, Michigan, and Cologne, Germany, which were attended by senior management from Ford and our ABF suppliers. Topics covered in these meetings included internal training development guidance, best practice sharing from suppliers on the topic of responsible working conditions, and environmental management in their own operations and their suppliers' operations.

We also held a workshop discussion on carbon measurement and management in the automotive value chain. In 2010 we will be conducting a pilot project with a select group of our suppliers that will involve the collection and reporting of greenhouse gas emissions data (see the Climate Change section for more information). For more information on our Supply Chain in general, please see Sustainable Supply Chain Management.

Related Links

This Report:

- Sustainable Supply Chain Management
- Supply Chain
- Supplier Relationships

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Design for Lifecycle Sustainability

We use a lifecycle approach to assess and minimize the total adverse impacts of our vehicles from a sustainability perspective – from raw materials extraction and transportation through manufacturing and use to end of life. This approach considers and works to minimize negative impacts upfront in product design decisions. Called Design for Sustainability (DfS), the approach is integrated and holistic, to ensure that we achieve a balance between environmental, social and economic aspects in our product development process.

We are continuing to advance how we apply DfS principles. For example, we developed a Product Sustainability Index tool, which has been used in our European product development operations since 2002. This tool helps us assess and find opportunities to reduce the impacts of our products over their entire lifecycle – including environmental impacts such as carbon dioxide, societal questions such as pedestrian protection and economic issues such as cost of ownership.

Among our product sustainability efforts, we are increasing our use of sustainable materials and eliminating undesirable materials. We are also working to reduce greenhouse gases and other emissions from our facilities and vehicles by developing cleaner and more energy-efficient production processes, improving the efficiency of our packaging and transportation logistics and introducing cleaner and more fuel-efficient vehicles. Downstream in our value chain, we are working with drivers to educate them on ways to increase fuel economy and reduce vehicle emissions through our eco-driving program. Upstream, we are working with our suppliers to increase the sustainability of our products throughout the supply chain.

Related Links

This Report:

- Product Sustainability Index
- Facilities
- Logistics
- Vehicle
- Driver
- Sustainable Supply Chain Management

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Quantifying Our Environmental Impacts

The first important step in improving the lifecycle impacts of our products is to understand the environmental aspects of our products and the potential environmental impacts associated with them.[1] The stages of a vehicle's lifecycle include materials production, parts fabrication, vehicle assembly, vehicle operation (including fuel production), maintenance and repair, and end-of-life disposal and recycling. While estimates vary depending upon the specifics of the vehicle analyzed, one cooperative, multi-industry analysis of a typical family sedan (a spark-ignited, gasoline-powered, Taurus-class family sedan weighing 1,532 kg) found that during its lifecycle:

- 960 gigajoules of energy are consumed
- 21,000 kg of hydrocarbon are consumed
- 60,000 kg of carbon dioxide are emitted

In that study, it was assumed the vehicle was driven a total of 120,000 miles at an average metro/highway fuel efficiency of 22.8 mpg. The study also found:

- Vehicle operation consumes 86 percent of the lifecycle energy
- Vehicle operation generates 87 percent of the lifecycle carbon dioxide (CO_2)
- Vehicle production generates 65 percent of the particulates and 34 percent of the lifecycle sulfur dioxide

This is consistent with a separate review of lifecycle studies, in which it was found that the operational stage generally accounts for 80 to 90 percent of the total energy consumption and CO_2 emissions of conventional gasoline-powered vehicles, depending on the vehicle's material composition, average fuel efficiency and lifetime drive distance. An ISO 14040-reviewed lifecycle assessment study of the Ford Galaxy and S-MAX confirmed that the vehicle's use phase consumes more energy and produces more CO_2 emissions than the vehicle's other lifecycle phases. Other impact categories are mainly dominated by the mining and materials production phases. These findings were confirmed in subsequent studies for all other models developed using our Product Sustainability Index.

1. *Environmental aspects* is a term used in the ISO 14001 framework to denote elements of an organization's activities, products and services that can interact with the environment. Potential environmental impacts include any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services. Local Ford facilities use corporate lists of environmental aspects and potential impacts to identify and amplify those aspects that apply to their operations.

Related Links

This Report:
- Product Sustainability Index

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Product Sustainability Index

Ford's European operations have been leading our efforts to incorporate the principles of designing for sustainability and the use of a lifecycle management approach. Ford began integrating Design for Environment principles into the product development process in the early 1990s. Initially, we focused on designing our vehicles to facilitate end-of-life disassembly and recycling by taking into account the accessibility of parts to be disassembled, the type and number of different fasteners used and the marking of parts for easy identification. Based on several studies, however, it became clear that focusing on a single lifecycle phase (e.g., end of life) leads to sub-optimizations and potentially increased impacts in other lifecycle phases.

Since then, we have shifted our focus to include a more comprehensive lifecycle approach to improving the sustainability of our vehicles. This focus incorporates the material and component production phase and the use phase, in addition to the end-of-life phase. Since 2002 we have been applying, as a sustainability management tool, the Product Sustainability Index, or PSI, in the development of all of our major new European vehicles. This tool follows a holistic Design for Sustainability approach that incorporates societal and economic aspects as well as environmental aspects[1] into our lifecycle analysis and design approach.

Ford's PSI tracks eight product attributes identified as key sustainability elements of a vehicle: lifecycle global warming potential (mainly carbon dioxide emissions); lifecycle air-quality potential (other air emissions); the use of sustainable materials (recycled and renewable materials); vehicle interior air quality (including allergy certification from TÜV Rheinland, a product-testing organization); exterior noise impact (drive-by noise); safety (for occupants and pedestrians); mobility capability (seat and luggage capacity relative to vehicle size); and lifecycle ownership costs (full costs for the customer over the first three years).

The PSI process has been used to develop the 2006 Ford S-MAX and Galaxy, as well as the 2007 Mondeo, 2008 Kuga, 2009 Fiesta and 2011 Focus. The Focus is the first Ford vehicle developed using the PSI system that is being sold globally. As a result of using the PSI assessment system, all of these models have shown improvements in environmental, social and/or economic performance when compared to the previous models. The chart below shows specific performance and areas of improvement for each model. The PSI will be used on all future products developed by Ford of Europe. Detailed reports on the PSI analysis for these vehicles can be downloaded from Ford of Europe's website.

In 2010 and 2011, the first joint PSI study was done by Ford of Europe and Ford North America on the all-new Ford Focus. This was a first step toward possibly implementing PSI in North America.

PSI Assessed Model Performance[2]

Lifecycle Global Warming

Measurement Method

Emissions of CO_2 and other greenhouse gases from raw material extraction to material, part, and vehicle production, driving period (150,000 km; incl. air conditioning) and final recycling/recovery (i.e., full vehicle lifecycle, cradle-to-cradle)

	Performance*	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	39 metric tonnes CO_2	Similar
2006 Ford Galaxy 2.0L TDCi with DPF	40 metric tonnes CO_2	Similar
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	37 metric tonnes CO_2	Better
2008 Ford Kuga	37 metric tonnes CO_2	No previous model
2009 Ford Fiesta ECOnetic, Diesel	21 metric tonnes CO_2	Better
2009 Ford Fiesta, Petrol	30 metric tonnes CO_2	Better

* 1 metric tonne = 1,000 kg

Lifecycle Air Quality

Measurement Method

Summer smog-related emissions from raw material extraction to material, part, and vehicle production, driving period (150,000 km; incl. air conditioning) and final recycling/recovery (i.e., full vehicle lifecycle, cradle-to-cradle)

Related Links

This Report:
- Sustainable Materials
- Lifecycle Vehicle CO_2 Emissions
- Materials Management

Ford.co.uk:
- Product Sustainability Index

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	37 kg ethene	Similar
2006 Ford Galaxy 2.0L TDCi with DPF	37 kg ethene	Similar
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	35 kg ethene	Better
2008 Ford Kuga	35 kg ethene	No previous model
2009 Ford Fiesta ECOnetic, Diesel	22 kg ethene	Better
2009 Ford Fiesta, Petrol	32 kg ethene	Better

Sustainable Materials

Measurement Method

Use of recycled and natural materials

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	18 kg of non-metals	Better
2006 Ford Galaxy 2.0L TDCi with DPF	18 kg of non-metals	Better
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	7.5% of non-metals	Better
2008 Ford Kuga	6% of non-metals	No previous model
2009 Ford Fiesta ECOnetic, Diesel	8.5% of non-metals	Better
2009 Ford Fiesta, Petrol	9% of non-metals	Better

Substance Management

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	Substance management, TÜV-tested pollen filter efficiency and allergy-tested label	Better
2006 Ford Galaxy 2.0L TDCi with DPF	Substance management, TÜV-tested pollen filter efficiency and allergy-tested label	Better
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	Substance management; TÜV-tested interior and pollen filter efficiency	Better
2008 Ford Kuga	TÜV-tested interior and pollen filter efficiency	No previous model
2009 Ford Fiesta ECOnetic, Diesel	TÜV-tested interior and pollen filter efficiency	Better
2009 Ford Fiesta, Petrol	TÜV-tested interior and pollen filter efficiency	Better

Drive-by-Noise

Measurement Method

dB(A)

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	71 dB(A)	Better
2006 Ford Galaxy 2.0L TDCi with DPF	71 dB(A)	Better
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	69 dB(A)	Similar
2008 Ford Kuga	72 dB(A)	No previous model
2009 Ford Fiesta ECOnetic, Diesel	69 dB(A)	Better
2009 Ford Fiesta, Petrol	72 dB(A)	Similar

Safety

Measurement Method

Complex method, structural stability, occupant safety, and pedestrian safety; active safety elements,

etc. including Euro NCAP stars

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	Euro NCAP safety rating: 5 stars for adult occupant protection, 4 stars for child protection and 2 stars for pedestrian protection	Better
2006 Ford Galaxy 2.0L TDCi with DPF	Euro NCAP safety rating: 5 stars for adult occupant protection, 4 stars for child protection and 2 stars for pedestrian protection	Better
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	Euro NCAP safety rating: 5 stars for adult occupant protection, 4 stars for child protection and 2 stars for pedestrian protection	Better
2008 Ford Kuga	Euro NCAP safety rating: 5 stars for adult occupant protection, 4 stars for child occupant protection and 3 stars for pedestrian protection	No previous model
2009 Ford Fiesta ECOnetic, Diesel	5-star Euro NAP rating for adult occupant safety; electronic stability control available for all versions	Better
2009 Ford Fiesta, Petrol	5-star Euro NCAP rating for adult occupant safety; electronic stability control available for all versions	Better

Mobility Capacity

Measurement Method

Mobility service (including seats, luggage) to vehicle size; measured as vehicle shadow in m² and luggage areas in liters

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	10.25 m² shadow area, 1171 l luggage, 5 seats	Better
2006 Ford Galaxy 2.0L TDCi with DPF	10.4 m² shadow area, 435 l luggage, 7 seats	Similar
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	9 m² shadow area, 530 l luggage, 5 seats	Better
2008 Ford Kuga	9.5 m² shadow area, 410 l luggage, 5 seats	No previous model
2009 Ford Fiesta ECOnetic, Diesel	7.5 m² shadow area, 295 l luggage compartment	Better
2009 Ford Fiesta, Petrol	7.5 m² shadow area, 295 l luggage compartment	Similar

Lifecycle Cost

Measurement Method

Sum of vehicle price and 3 years' service (fuel cost, maintenance cost, taxation) minus residual value

	Performance	Better/worse than previous model
2006 Ford S-MAX 2.0L TDCi with DPF	Approx. €22,100	Better
2006 Ford Galaxy 2.0L TDCi with DPF	Approx. €23,200	Better
2007 Ford Mondeo 2.0-liter TDCi Diesel with DPF	Approx. €18,300	Better
2008 Ford Kuga	Approx. €19,100	No previous model
2009 Ford Fiesta ECOnetic, Diesel	Approx. €13,000	Similar
2009 Ford Fiesta, Petrol	Approx. €11,000	Better

Ford of Europe published a detailed PSI report, soon after the launch of the first vehicles for which PSI had been used from the beginning of vehicle development. The PSI assessment system also has been reviewed and certified by outside experts. One study, conducted by experts in the area of lifecycle science and sustainability, found the PSI to be a design and analysis step that provides a full sustainability assessment and meets the requirements of ISO 14040, the international lifecycle assessment standard. PSI assessments of the 2006 S-MAX and Galaxy vehicles were certified by the International Organization for Standardization for lifecycle assessment improvements. This certification process also verified the overall PSI methodology used for all subsequent PSI-developed models.

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1. *Environmental aspects* is a term used in the ISO 14001 framework to denote elements of an organization's activities, products and services that can interact with the environment. Potential environmental impacts include any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services. Local Ford facilities use corporate lists of environmental aspects and potential impacts to identify and amplify those aspects that apply to their operations.
2. PSI-rated models are only available in Europe.

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Products

As a customer- and product-driven company, our vehicles are the foundation of our business. Our products are also a major focal point of our environmental impacts and our efforts to reduce those impacts.

This section reports on the environmental aspects[1] of our products, from their design through their use through to the end of their lifecycle. Specifically, we report on:

- Tailpipe emissions, including hydrocarbons, nitrogen oxides, carbon monoxide and particulate matter that can contribute to smog formation and other air-pollution issues
- Sustainable materials, including efforts to increase our use of recycled and renewable materials, improve vehicle interior air quality and eliminate substances of concern

The fuel efficiency of our products, as well as our product-related greenhouse gas emissions, are reported in the Climate Change section of this report.

1. *Environmental aspects* is a term used in the ISO 14001 framework to denote elements of an organization's activities, products and services that can interact with the environment.

Related Links

This Report:

- Climate Change Progress and Performance
- Sustainable Materials

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Non-CO_2 Tailpipe Emissions

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Related Links

Vehicle Websites:
- Ford Focus
- Ford Fusion Hybrid
- Ford Escape
- Mercury Milan Hybrid
- Lincoln MKZ

Vehicle smog-forming emissions result from the incomplete combustion of fuels, impurities in fuels, and the high-temperature oxidation of atmospheric nitrogen during the fuel-combustion process. Regulated smog-forming tailpipe emissions include hydrocarbons, nitrogen oxides, carbon monoxide and particulate matter. These emissions are regulated in the U.S. by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act as well as by the California Air Resources Board (CARB).

U.S.

As of 2010, all of Ford's U.S. vehicles have been certified to the EPA's Tier 2 regulations, a comprehensive and challenging set of vehicle emissions requirements.

The Tier 2 program began with the 2004 model year. It coordinates the introduction of cleaner fuels with more-stringent vehicle tailpipe emissions standards to achieve near-zero non-carbon dioxide (CO_2) tailpipe emissions from cars and light trucks. These regulations significantly reduce targeted vehicle emissions, including nitrogen oxides and non-methane organic gases, to help reduce the formation of ozone and particulate matter. The Tier 2 regulations apply to all passenger cars, light trucks and medium-duty passenger vehicles. Ford completed implementing Tier 2 emissions requirements on all relevant vehicles in the 2009 model year.

The EPA estimates that this program has resulted in reductions in oxides of nitrogen emissions (from all relevant mobile sources) by at least 1.2 million tons as of 2010.

For the California market, Ford is required to meet the state's stringent Low Emission Vehicle II (LEVII) emissions requirements for light-duty vehicles. Under the LEVII program, manufacturers are effectively required to produce a number of Partial Zero Emission Vehicles (PZEVs). A PZEV is a vehicle certified to near-zero emissions standards. Strictly speaking, PZEV vehicles are required to:

- meet California's Super Ultra-Low Emission Vehicle exhaust emissions standard (SULEVII),
- produce zero fuel system evaporative emissions, and
- be emissions compliant for a full useful life of 150,000 miles.

For the 2010 model year, we offered a PZEV version of the Ford Focus. The hybrid versions of the 2010 Ford Fusion, Mercury Milan and the Lincoln MKZ also met the PZEV requirements. For the 2011 model year, Ford is offering the Focus PZEV and hybrid PZEV versions of the Ford Fusion, Lincoln MKZ and Ford Escape.

Both the EPA and CARB are in the process of developing the next generation of emissions standards (Tier 3 and LEV III, respectively). CARB is also in the process of revising its future Zero Emission Vehicle regulations, to integrate greenhouse gas emissions.

We are working with the agencies through their regulatory processes to help develop rules that are both effective and feasible. In setting tailpipe emission regulations, other vehicle rules – such as fuel economy/greenhouse gas standards and safety standards – must be taken into account to ensure that the total package of requirements is workable.

Ford continues to oppose technology mandates that seek to impose quotas or limits on the production or sale of vehicles with specified powertrain technologies. Regulatory efforts to dictate market outcomes, or to pick technology "winners" and "losers," have never produced successful outcomes. Manufacturers need the flexibility to build the kinds of vehicles that the marketplace demands based on consumer preferences and other external factors. Emissions standards should be performance-based and should be designed to enable manufacturers to introduce vehicles with an array of different technologies.

Information about the emissions performance of all Ford vehicles sold in the U.S. can be found at the EPA's Green Vehicles site.

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Europe

Since 1990, we have decreased the non-CO_2 tailpipe emissions from our vehicles sold in Europe by up to 90 percent through the development of a new generation of downsized, high-efficiency gasoline- and diesel-powered vehicles with improved engine technologies and high-tech exhaust gas treatment devices. As part of these emissions-reduction efforts, all of our diesel engines are now fitted with a maintenance-free diesel particulate filter system that requires no additives for filter regeneration.

Further air-quality improvements have been generated as we have introduced vehicles equipped with technology to meet the more-stringent Euro 5 emissions standards. In 2010, for example, Ford introduced the 1.6L and 2.0L GTDI Ecoboost™ engines in Europe. These are among the most technologically advanced engines in production, combining high-pressure direct injection, a low-inertia turbo and twin independent variable cam timing. They join an all-new lineup of high-efficiency common rail diesel engines all complying with Euro 5 emissions levels. All of our new passenger cars registered as of January 1, 2006, and all light-duty vehicles registered as of January 1, 2007, comply with the Euro 4 standard.

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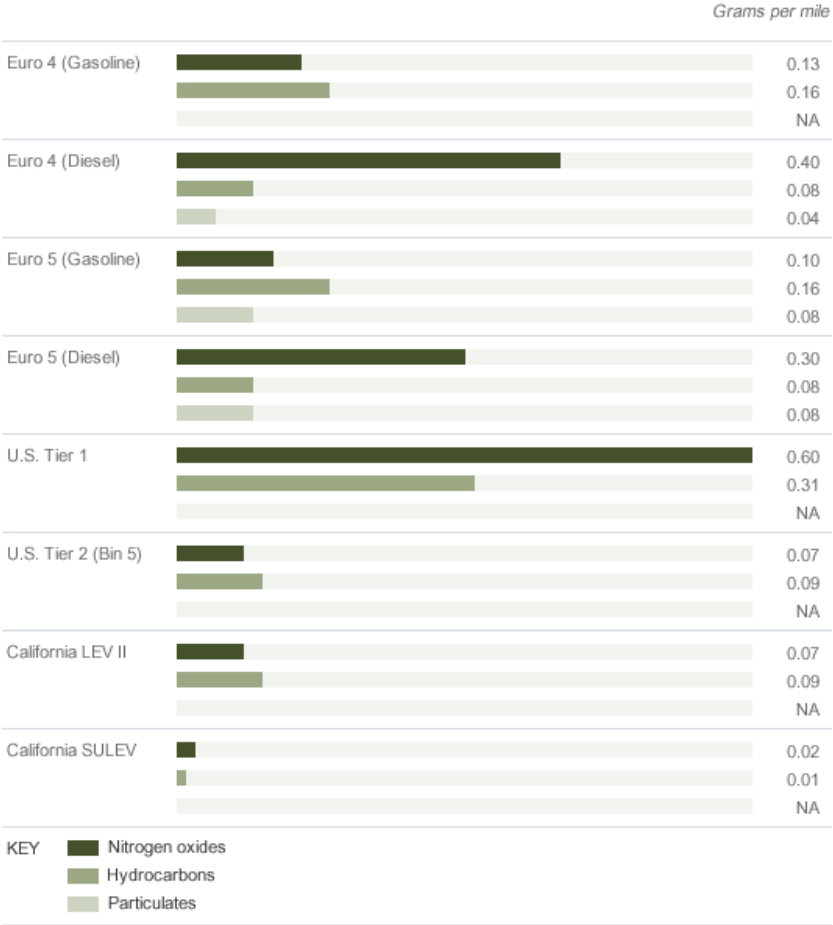
Emissions Regulations in the U.S. and Europe

Chart | Table



Grams per mile

	Nitrogen oxides	Hydrocarbons	Particulates
Euro 4 (Gasoline)	0.13	0.16	NA
Euro 4 (Diesel)	0.40	0.08	0.04
Euro 5 (Gasoline)	0.10	0.16	0.08
Euro 5 (Diesel)	0.30	0.08	0.08
U.S. Tier 1	0.60	0.31	NA
U.S. Tier 2 (Bin 5)	0.07	0.09	NA
California LEV II	0.07	0.09	NA
California SULEV	0.02	0.01	NA

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Asia Pacific and Africa

Since 2007, our new passenger vehicles have been designed to comply with China Stage III requirements (based on Euro 3 standards). China plans to implement the most recent European standards (Euro 5) starting in 2012 in large cities. Korea and Taiwan have adopted very stringent U.S.-based standards for gasoline vehicles and European-based standards for diesel vehicles. Japan has unique standards and test procedures, and began implementing more-stringent standards in 2009. Ford is working to comply with all of these standards using a variety of approaches, including on-board diagnostics and after-treatment technologies.

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South America

New passenger and commercial vehicles in South America must comply with varying levels of U.S.- or European-based emissions regulations. Argentina, Brazil and Chile are leading the adoption of more-stringent standards for light- and heavy-duty vehicles, to be phased in between 2011 and 2015.

As a consequence, the following non-CO_2 emissions-control technologies have been or will be introduced on our vehicles sold in South America: on-board diagnostic systems in Brazil and Argentina (which are being studied in Chile); particulate filter technology for some diesel products; and selective catalytic reduction systems for heavy diesels in these three countries.

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Sustainable Materials

Materials are an important element of a vehicle's lifecycle sustainability. Choices about materials can influence the safety, fuel economy and performance of the vehicle itself and can have implications throughout the value chain. A material can be more or less sustainable based on a number of factors, including its origin (virgin, renewable or recycled), the resources and manufacturing methods used, the emissions produced throughout its lifecycle, and its application.

Ford has been working for many years to increase the use of recycled and renewable materials and reduce the use of undesirable materials. Vehicles in North America typically are composed of 20 to 25 percent post-consumer recycled material by weight, primarily due to the extensive use of metals with recycled content. Therefore, Ford has concentrated its efforts on developing new uses for recycled materials in the non-metallic portions of the vehicle, which are typically composed of virgin materials. While the amount of recycled content in each vehicle varies, we are continuously increasing the amount of recycled material used in each vehicle line. As described in the section on Design for Lifecycle Sustainability, we have tools available such as Design for Sustainability, lifecycle assessment and lifecycle costing which help us to make beneficial materials choices on future products.

For many years, Ford has had a Voluntary Recycled Content Usage Policy in North America, which sets goals for the use of non-metallic recycled content for each vehicle and increases those targets year by year and model by model. Under this program, recycled materials are selected for all of our vehicles whenever technically and economically feasible. We are now in the process of reinforcing the targets and migrating successful applications of recycled and renewable content across more vehicles for increased environmental benefit. We are focusing on implementing materials technologies that improve environmental and social performance and lower costs.

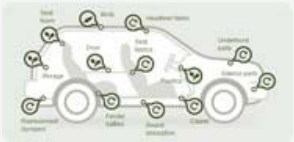
To facilitate this, we are working with our commodity business planners, materials purchasers and materials engineers to develop a comprehensive list of cost-effective sustainable materials that can be implemented across multiple parts and vehicle lines. All recycled and renewable materials on this list are evaluated versus comparable virgin grades, to guarantee appropriate mechanical properties and the same level of component performance that would be obtained with virgin materials. By combining sustainable materials goals for updated or redesigned vehicles with sustainable materials identification and testing processes, we are standardizing and broadening the use of sustainable materials in our vehicles.

As part of our sustainable materials strategy we are also developing global materials specifications, which will facilitate the incorporation of sustainable materials where they meet performance requirements. By developing global specifications we will ensure that the benefits of more sustainable materials will have a global impact. For example, we are introducing recycled material specifications onto the same documents that house our virgin material specifications. This will simplify monitoring of the use of recycled content in our vehicles and will ensure that component engineers and Tier 1 suppliers are confident in the performance of the recycled material, by means of a direct comparison with an equivalent virgin material.

Our efforts to use recycled materials where they make financial sense are already bearing fruit. For example, many commodity purchasing plans already list recycled-content materials as a preferred material option, including those for battery trays, battery shields and wheel arch liners. In addition, we developed a comprehensive resin strategy that requires the use of recycled plastics for underbody and aerodynamic shields, fender liners, splash shields, stone pecking cuffs and radiator air deflector shields manufactured in North America.

In addition, Ford has a material specification that defines ***post-consumer, post-industrial*** and ***depolymerized recycled content*** and ensures that the use of in-house scrap is not counted toward recycling targets. We also have a material specification for recycled content textiles and are working on specifications for renewable materials. These specifications make it easier for vehicle engineers to choose sustainable material options.

As we introduce sustainable materials, we are conscious that recycled materials are not always the preferable solution. For example, we take into consideration whether recycled materials may increase weight or have significant energy demand in collection/recycling. We also consider the availability of a local recycled material feedstock versus the need for a global commonality of materials. Our global materials strategy has dramatically reduced the number of materials we specify and use, to enable quality and cost reductions. (For more information please see Increasing Global Integration.) In some cases, the introduction of recycled and renewable materials will run counter to that commonization progress, since the feedstocks for these materials can vary by region. Therefore, we are focusing on the most-efficient opportunities to use recycled and renewable materials. For example, it is often more efficient to use local waste materials that divert waste from local landfills, than to ship waste material inputs across the globe. We are working to ensure that we use local materials as a feedstock for our recycled content materials.



Choosing More Sustainable Materials

Explore the sustainable materials we use in our vehicles.

READ MORE

Related Links

This Report:

- Design for Lifecycle Sustainability
- Materials Management
- Increasing Global Integration

As a result of this comprehensive sustainable materials strategy, we will increase the sustainable materials content of every new model year vehicle and standardize the use of sustainable materials across more vehicle components.

Choosing More Sustainable Materials

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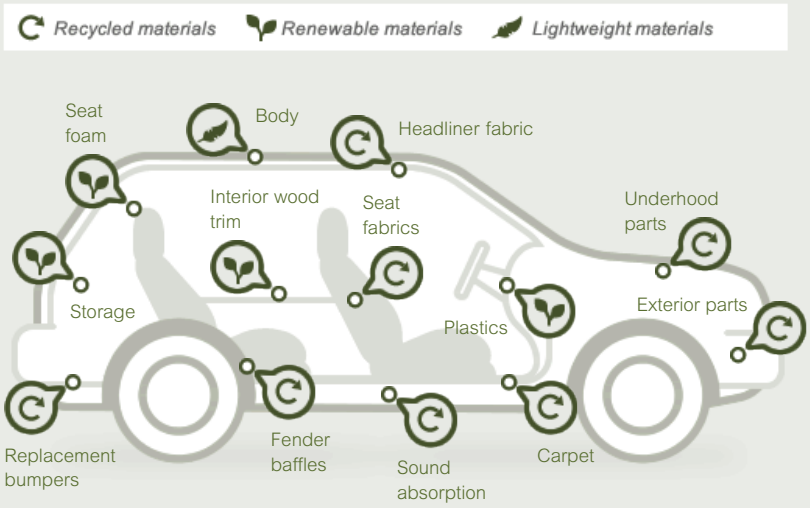

Carpet

Recycled content carpets are used on many vehicles including the U.S. and European Focus and the 2011 Explorer

Replacement bumpers

Many European vehicles use recycled plastic replacement bumpers when original bumpers are damaged

Recycled seat fabric

Seat fabrics in versions of the Fiesta, Taurus, Mustang, Focus, F-150, Super Duty, Fusion, and Escape Hybrid use between 25% and 100% recycled content

Seat foam

Soy foam

Starting in 2011 all vehicles manufactured in North America use seat foam made with soy oil, which reduces CO_2 emissions and decreases dependency on oil

Body

High strength steels

Many vehicles including the 2011 Explorer and European Fiesta use high-strength steels, which weigh less than traditional steels with the same or better performance

Aluminium and Magnesium

Many vehicles including the Lincoln MKT and Ford Kuga use aluminium and magnesium parts, which are lighter weight than traditional steel

Recycled headliner fabric

The 2011 Fiesta in North America use between 50% and 75% recycled content in the headliner fabric

Underhood parts

Recycled plastics and nylon are used in non-surface parts on many vehicles including fan shrouds, battery trays, heater/air conditioning housing, wheel arch liners, engine fans and covers, and underbody systems

Decorative exterior parts

The 2011 Super Duty uses recycled content plastics on a range of parts including the bumper valences, license place brackets, and fog lamp bezels

Sound absorption materials

Recycled blue jeans are used in sound absorption materials on many vehicles including the 2012 Focus

Fender baffles

This noise dampening part on the 2011 Explorer is made of recycled steel from F-150 door panels, reducing manufacturing related CO_2 emissions

Storage

Wheat Straw reinforced plastics

Injection molded plastics reinforced with renewable wheat straw instead of glass fibers were first implemented in storage bins on the 2010 Flex

Engineered wood technology

The Lincoln Navigator, MKX, and MKS use engineered wood from certified, sustainably managed forests, which reduce input materials and waste sent to landfill

Plastics

Natural fibre reinforced compression molded plastics

Multiple European vehicles use compression molded plastics including the Ford Mondeo which uses plastics made with 50% kenaf and 50% polypropylene

We are working to improve the sustainability of our vehicles by using materials that are more sustainable from a total lifecycle perspective. This includes increasing the use of recycled, renewable, recyclable and lightweight materials. Recycled materials incorporate post-consumer and/or post-industrial waste materials; renewable materials are made from plant-based materials; and lightweight materials use special materials and/or designs that provide the same or better performance as other alternatives with less weight.

Recycled Materials

Our efforts to increase recycled materials focus on non-metallic parts, which traditionally have little or no recycled content. Since 2009, as part of our **comprehensive recycled resin strategy**, plastics for underbody and aerodynamic shields, fender liners, splash shields, stone pecking cuffs and radiator air deflector shields manufactured in North America have been made out of post-consumer recycled waste from detergent bottles, tires and automotive battery casings. In 2010, we improved this strategy to specify that rear wheel liners be produced from materials derived from 30 to 40 percent recycled content. These fabric parts are 50 percent lighter than plastic wheel liners and absorb sound, which will enable improved noise vibration and harshness performance while potentially reducing the need for sound-deadening insulators, sprays and foams.

Many Ford vehicles already use recycled materials for these applications, including the Ford Flex, Focus, Fusion, Edge, Ranger, F-150 and Explorer; and the Lincoln MKZ, MKX and Navigator. This recycled materials resin strategy saves money and reduces landfill waste. We estimate that Ford saved approximately $8 million in 2010 by using these recycled materials and diverted between 45 and 50 million pounds of plastic from landfills.

We are also using post-consumer **recycled nylon** in many exterior and under-hood parts, including air cleaner housings, engine fans, fan shrouds, HVAC temperature valves, engine covers, cam covers and carbon canisters.

The 2009 Ford Flex won the Society of Plastics Engineers 2008 Vehicle Engineering Team Award for use of innovative materials. The Flex's recycled plastic underbody system uses approximately 20 pounds of post-consumer recycled waste per vehicle while reducing costs by 10 to 40 percent.

The **all-new 2011 Ford Explorer** uses many recycled materials, including materials recycled from our own manufacturing processes. For example, the noise-dampening fender baffles, which fit between the vehicle's outer shell and its inner structure, are made from steel left over after stamping the door openings out of F-150 body sides. This reuse allows Ford to reduce its use of virgin steel by an estimated 119 tons for one year of production. Using less virgin steel also reduces carbon dioxide (CO_2) emissions. As outlined in more detail below, the Explorer uses

Related Links

This Report:

- Ford's Sustainable Technologies and Alternative Fuels Plan
- Materials Management

Vehicle Websites:

- Ford Explorer
- Ford Focus
- Ford Mondeo

between 25 and 40 percent recycled fiber in its interior fabrics, including seat upholstery, bolster and carpeting. The use of recycled fiber instead of virgin fiber for the seating material is estimated to reduce energy consumption by 20 percent, waste by 17 percent and CO_2 emissions by 14 percent.

The current Ford Mustang and the 2012 Ford Focus and Fiesta will each use more than 20 pounds of **recycled polypropylene plastics** in a range of parts, including the front and rear fender aprons, the front air dam, side rockers and the rear air deflector and under body air deflectors.

Overall, the **2012 Focus** uses approximately 300 separate parts formed with recycled material, diverting approximately 20,000 tons of waste away from landfills each year. The parts incorporating recycled content and the amount of recycled content vary somewhat from region to region. Though this is a global vehicle, approximately 20 percent of parts and parts sourcing are different in different regions. In addition, the availability of recycled material feedstocks varies by region. The U.S. version of the Focus uses recycled content in a wide range of parts including:

- Carpet backing and sound absorption
- Carpets
- Seat fabric
- Front bumper
- Trim panels
- Battery housing, cover and base plate
- Wheel arch liners
- Heating/ventilation components
- Fan shrouds
- Seat supports

In Europe, we strive to use recycled polymers in all of our vehicles when they provide a more sustainable solution. In addition to recycled content in our new vehicle parts, we are also recycling damaged parts collected by dealers. In the UK, we are **recycling bumpers** that have been damaged in accidents or replaced in service. Ford dealers collect the bumpers, which are recycled into new bumpers and other plastic parts. Previously, dealers had to pay to dispose of these bumpers as waste. Currently, dealers store them in a container that is collected by Ford for free. In 2009, more than 23,000 bumpers across the UK Ford dealer network (equating to 70 metric tons of plastic) were diverted from landfills through this program.

Across our global operations, we are also using **recycled materials for interior parts**. This can be much more challenging than using recycled materials for underbody, subsurface and exterior black parts, because it is difficult to get the necessary appearance and performance when using recycled materials. We are continuing to expand our use of recycled seat fabrics and seat components that meet all appearance and performance requirements. The following table highlights some of these efforts:

Interior Recycled Materials Achievements

Vehicle	Material	Partner	Benefits
2011 Ford Fiesta – North America	25 percent post-consumer recycled yarns for seat fabric	Aunde	• Reduces consumer waste • Reduces depletion of natural resources
	75 percent post-consumer recycled yarns for non-woven headliner	Freudenberg	
2011 Ford Explorer	25–40 percent post-industrial recycled seat upholstery, bolster and carpeting	Aunde, Guilford	• Reduces energy consumption by at least 20 percent • Reduces waste by at least 17 percent • Reduces CO_2 emissions by at least 14 percent • Reduces water use by at least 9 percent
2010 Ford Taurus SHO	100 percent post-consumer recycled yarns for seat fabric	Miko Fabrics	• Reduces waste • Reduces energy required for yarn manufacturing by 64 percent and manufacturing-related CO_2 emissions by 60 percent • Fabric manufacturing process uses only neutral, nontoxic dyes and no harmful solvents
2010 Ford Taurus SEL	25 percent post-industrial recycled yarns for seat fabric	Guilford	• Reduces consumer waste • Reduces depletion of natural resources
2010 Mustang Base Series	25 percent post-industrial recycled yarns for seat fabrics	Sage Automotive Interiors	• Reduces consumer waste • Reduces depletion of natural resources
2010 Ford F-150 XL, XLT & FX4 2011 Ford Super Duty®	25 percent post-industrial recycled yarns for seat fabrics	Sage Automotive Interiors, Guilford, Aunde	• Reduces waste • Reduces depletion of natural resources
2010 European Ford Focus RS (fabric option)	100 percent post-consumer recycled yarns for seat fabric	Miko Fabrics	• Reduces waste • Reduces energy required for yarn manufacturing by

			64 percent and manufacturing-related CO_2 emissions by 60 percent • Fabric manufacturing process uses only neutral, nontoxic dyes and no harmful solvents
2010 Ford Fusion and Mercury Milan Hybrids	85 percent post-industrial recycled yarns and 15 percent solution-dyed yarns in seat fabric	Sage Automotive Interiors	• Reduces energy use • Reduces CO_2 emissions • Reduces the use of dyes and chemicals • Reduces water use • Decreases the use of foreign oil
2010 Ford Fusion S series	27 percent post-industrial recycled yarns for seat fabric	Guilford	• Reduces waste • Reduces depletion of natural resources
2010 Ford Escape and Mercury Mariner Hybrid and gas vehicles	100 percent post-industrial recycled yarns in seat fabric	Aunde	• Reduces waste, water use and CO_2 emissions
2008–2009 Ford Escape and Mercury Mariner Hybrids and gas vehicles	100 percent post-industrial recycled yarns in seat fabric	Interface	• Uses 600,000 gallons less water* • Produces 1.8 million lbs less CO_2 equivalents* • Reduces electricity use by 7 million kWh*

* Based on an annual volume of 80,000 vehicles

Since the 2009 model year, the **seat fabrics** in most of our new or redesigned vehicles are made from at least 25 percent post-industrial or post-consumer recycled content. In addition, many of our non-woven headliner fabrics now contain 50 to 75 percent recycled yarns, depending on the color.

In 2009, Ford joined a three-year research project investigating a new wood/plastic compound known as "**liquid wood**." Early findings show excellent recycling potential, as the material can be reprocessed up to five times and has an overall near-neutral CO_2 balance.

We have expanded the use of recycled materials in several Class "A" **decorative applications**. For example, the 2011 Ford Super Duty® will use material derived from recycled battery casings on several aesthetic parts, such as license plate brackets, the 4x2's bumper valence panel and the fog lamp bezels. These parts are "molded in color" and color-matched to provide visual harmony. The Super Duty is also using post-industrial and post-consumer recycled plastic for its fascia lower valence. This plastic was a finalist for the 2009 Society of Plastics Engineers Innovation awards.

Recycled materials do not mean low-quality materials. Our researchers work to insure that post-industrial recycled and post-consumer recycled plastic materials have the same level of quality and material specifications originally. In some cases, we are working to recycle the materials from our auto parts right back into the same use. For example, we are developing methods for recycling and cleaning post-industrial recycled fascia and bumper scrap so that it can be molded into new fascias and bumpers. We are even working to "upcycle" certain materials – that is, recycle it into uses with higher material and performance requirements than the virgin material. For example, we are working on upcycling post-consumer laundry and milk bottles into blow-molded automotive components. In addition, we are developing a method to recycle polyurethane foam scrap to make new polyurethane foam components instead of landfilling it at the end of its life.

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Renewable Materials

We are actively researching and developing renewable material applications that will reduce our dependence on petroleum products and reduce our carbon footprint, while providing superior performance. Research scientists at Ford's Research and Innovation Center in the U.S., Ford's Research Center in Aachen, Germany, and Ford of Brazil are focused on developing automotive foams, plastics and composites that are derived from renewable resources.

Since 2002, our researchers have pioneered research and development of **soy-based polyurethane foams** for automotive applications. The use of soy foam reduces CO_2 emissions, decreases dependency on oil and increases the utilization of renewable agricultural commodities. Soy foam also offers the potential for cost savings as well as insulation from petroleum product price swings.

Many technical difficulties had to be overcome to produce soy-based foams that met all of our stringent durability and performance specifications for seating. In 2007, Ford was the first automaker to implement this innovative technology (on the seat cushions and seat backs of the 2008 Ford Mustang), and we have since migrated its use to 23 vehicle programs. As of 2011, all Ford Motor Company vehicles built in North America have soy foam in their seat cushions and backs. In addition, at least 75 percent of headrests produced in North America have soy foam, and the headliner on the Ford Escape is made from another kind of bio-based foam.

Ford currently has soy foam seats in more than 3 million vehicles on the road, which reduces petroleum oil usage by more than 1 million pounds (or 10,500 barrels) annually. Lifecycle analyses that compare soy foams with traditional petroleum-based foams show a net decrease of 5.5 pounds of CO_2 per pound of soy oil used. Ford's use of soy foam reduces our annual CO_2

emissions by 15 million pounds – the annual equivalent of more than 1,000 typical American households. In addition, soy foam has up to 24 percent renewable content.

Ford has been recognized for its leadership on soy foam technology through multiple awards, including the 2009 R&D 100 award from R&D magazine, which honors technologies across multiple industries that help to solve societal, scientific and/or business challenges. Additional awards for this material include the United Soybean Board's Excellence in New Uses Award (2006), the Society of Plastics Engineers' Environmental Division Award (2008), the Society of Automotive Engineers' International Environmental Excellence in Transportation Award (2008), and the Society of Plastics Engineers' Automotive Division Innovation Award in the Environment category (2008).

Ford has licensed its soy foam technology to two companies – John Deere and Sears Manufacturing – that are investigating soy foam for seating applications in their agricultural equipment products. We are proud to have environmental technologies researched and developed by our Company used by other industries. Ford also continues to collaborate with the United Soybean Board, which has sponsored research grants for new applications using soy products. For example, Ford scientists are currently assessing the use of soy meal, flour and hulls as fillers in synthetic rubber and plastic applications.

Ford is also pioneering the use of **soy oil in rubber**. By using renewable soy oil as a 25 percent replacement for petroleum oil, Ford researchers more than doubled the rubber's "stretchability" and at the same time reduced its environmental impact. Soy-based rubber parts – such as radiator deflector shields, air baffles, cup holder inserts and floor mats – are under consideration for future Ford vehicle programs.

Ford Research has also begun work on a new technology to **make urethane foams even greener**. This innovative technology will enable us to use old foam scrap (including soy foams) as a feedstock for new foam. Polyurethane makes up 5 percent of total solid municipal waste (about 1.3 million tons) in the U.S., and almost 24 percent of that is attributed to the automotive industry. The landfilling of foam at the end of an automobile's useful life is a significant issue, and one that we continue to work to address. Our initial results formulating both rigid and flexible recycled foams in the laboratory have shown promise. We are excited about recycling foam because it is prevalent in landfills and because the current recycling of foam is limited to low-requirement applications such as carpet backing.

In November 2009, Ford introduced the world's first application of **wheat-straw-reinforced plastic** in the third-row storage bins of the 2010 Ford Flex. Wheat straw is used to replace the glass fibers or minerals commonly used to reinforce plastic parts. The use of wheat straw is a highly efficient use of natural fiber, because it is a byproduct of growing wheat that is typically discarded. Furthermore, the use of wheat straw-reinforced plastics in the 2010 Flex storage bins reduced our petroleum usage by some 20,000 pounds and CO_2 emissions by about 30,000 annually. The material weighs up to 15 percent less than plastic reinforced with glass or talc. Additional implementations of wheat-straw-reinforced plastics under consideration by the Ford team include console bins and trays, interior air registers, door trim panel components and armrest liners.

We are using **engineered wood technology**, which comes from a certified, sustainably managed forest and is a renewable resource, on several interior applications in North American vehicles. This wood, which is harvested under strict guidelines, is assembled into a composite and then stained to give it a warm, rich appearance. In addition, the use of engineered wood eliminates many of the extra processing steps necessary in producing real wood automotive trim parts, and the processing required is more environmentally friendly. For example, water-based stain can be used instead of solvent-based, and a solvent wash to remove oils is not needed. Additional bleaching and sealing operations are eliminated, which greatly reduces the production of volatile organic compounds. Engineered wood technology uses input materials more efficiently, so less waste material is sent to landfills. Engineered ebony wood was implemented on the 2008 Lincoln Truck, the 2008 and 2009 Navigator, the 2008 MKX and the 2009 MKS. Ford is also exploring other wood veneer alternatives, such as veneers from managed sustainable forests, to reduce our environmental impact footprint.

We are also using renewable materials on our **European vehicles**. For example, the Ford Mondeo uses a mixture of 50 percent kenaf plant fiber and 50 percent polypropylene in the compression-molded interior door panel. The average Ford vehicle sold in Europe uses between 10 and 20 kilograms of renewable materials, depending on the vehicle size class. The 2011 Ford Focus has natural fiber compression-molded door panels. Almost 300 parts used across Ford's European vehicles are derived from sources such as cotton, wood, flax, hemp, jute and natural rubber.

To maintain our sustainable materials leadership in the future, Ford researchers are developing and formulating new materials and applications for other renewable materials, such as **corn-based, compostable and natural-fiber-filled plastics**. These materials will help to reduce the resource burden and waste generated and will help to reduce the weight of vehicles, thereby improving fuel economy. For example, we are developing a sustainable replacement for the fiberglass now used between the headliner of a vehicle and the roof sheet metal. The replacement material is bio-based, reduces weight, improves acoustics and neutralizes odor.

We are also developing **natural-fiber composites** as a potential substitute for the glass fibers traditionally used in plastic automotive components to make them stronger. We are assessing the possibility of substituting up to 30 percent of the glass-fiber reinforcement in injection-molded plastics with natural sisal and hemp fibers. These parts have competitive mechanical and thermal properties and good surface appearance, and can be cost competitive. These natural-fiber-reinforced parts also reduce vehicle weight and lifecycle CO_2 emissions compared to glass-fiber-

reinforced parts.

Finally, we are investigating ways to use plastics made entirely from renewable resources such as corn, sugarcane and switchgrass. These **bio-based materials** could have multiple benefits, including reduced dependency on petroleum, reduced CO_2 emissions and the ability to compost instead of landfill materials at end of life. Ford researchers have made considerable inroads with polylactic acid (PLA) – a biodegradable plastic derived completely from the sugars in corn, sugar beets, sweet potatoes, sugar cane, Indian grass and other plants. When plastic parts made from PLA reach the end of their useful life, they can biodegrade in 90 to 120 days. In contrast, traditional petroleum-based plastics are projected to remain in landfills for hundreds of years. We are also assessing bio-yarns for use in making plant-based fabrics. Several technical issues must be overcome before these compostable plastics and fabrics meet our stringent wear, performance and durability requirements, but they hold great promise for future vehicles.

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Lightweight Materials

We are actively pursuing the development and use of cutting-edge materials – including high-strength steels, lightweight metals such as aluminum and magnesium, and composite materials – to reduce the weight of our vehicles and improve their fuel economy without compromising safety or performance.

On the **2011 Ford Explorer**, for example, nearly half of the vehicle structure, including the A-pillars, rocker panels and front beams, comprise high-strength steels, such as boron. These materials substantially reduce weight, while increasing vehicle strength and safety.

Similarly, the European Ford Fiesta stands on virtually the same footprint as the previous model, but weighs approximately 40 kilograms less, depending on engine choice, even after adding 10 kilograms of safety features and sound insulation. The use of **high-strength steels** – cold- and hot-formed – was the key to delivering the lighter weight and higher strength we needed for structural efficiency and crash performance. The materials used on the new Fiesta are setting a new benchmark in the small-car segment.

Ford researchers are investigating additional **new types of steel** that are up to three times stronger than current steels and improve manufacturing feasibility because they can be formed into parts more easily. We are also investigating polymeric plastic strengthening foams that are strong enough to stabilize bodywork in an accident but light enough to float on water. These foams are being used to reinforce sections of the steel auto body, such as the B-pillars. In addition, we are working on surface coatings that reduce engine friction and remain intact even under the most adverse conditions.

Ford is also increasing the use of **aluminum and magnesium** to reduce vehicle weight. For example, we implemented a new liftgate on the 2010 Lincoln MKT that combines a lightweight, die-cast magnesium inner panel with two stamped aluminum outer panels. This liftgate is more than 20 pounds, or 40 percent, lighter than a similar part made from standard steel.

In Europe, we launched a lightweight liftgate inner panel on the 2009 Ford Kuga, which reduced weight compared to a steel liftgate inner panel by 40 percent and reduced costs by 10 to 20 percent. This liftgate inner panel was a finalist for the Society of Plastics Engineers' 2008 Chassis/Hardware/Powertrain Innovation Award. Ford researchers in Europe are also developing alternative (copper-based) wire harness technologies that will enable significant weight reductions.

We are also using **nanotechnology** to develop advanced lightweight materials that will allow us to decrease vehicle weight without sacrificing strength, safety or performance. Much of this work focuses on developing the ability to model material properties and performance at the nanoscale, which will allow us to develop better materials more quickly and with lower research and development costs.

In addition to this modeling work, Ford is experimenting with **nano-filler materials** in metal and plastic composites to reduce their weight while increasing their strength. For example, we are developing the ability to use nano-clays that can replace glass fibers as structural agents in reinforced plastics. Early testing shows plastic reinforced with 5 percent nano-filler instead of the typical 30 percent glass filler has strength and lightweight properties that are better than glass-reinforced plastics.

Ford is also working to understand the health and safety issues that may be posed by nano-materials. Ford has joined with other automakers under the U.S. Council for Automotive Research (USCAR) umbrella to sponsor research into nano-materials' potential impact on human health and the environment. This research has addressed many health and environment-related questions so that we can focus our nano-materials research and development in areas that will be most beneficial.

Weight reductions alone may have relatively small impacts on fuel economy. By itself, a 10 percent reduction in weight results in approximately a 3 percent improvement in fuel efficiency. However, if vehicle weights can be reduced substantially, it becomes possible to downsize the powertrains required to run the vehicle. Weight reductions combined with powertrain rematching not only improves fuel economy, but helps maintain overall performance (compared to a heavier vehicle with a larger engine).

For more information on our weight-reduction activities, please see the Sustainable Technologies and Alternative Fuels Plan.

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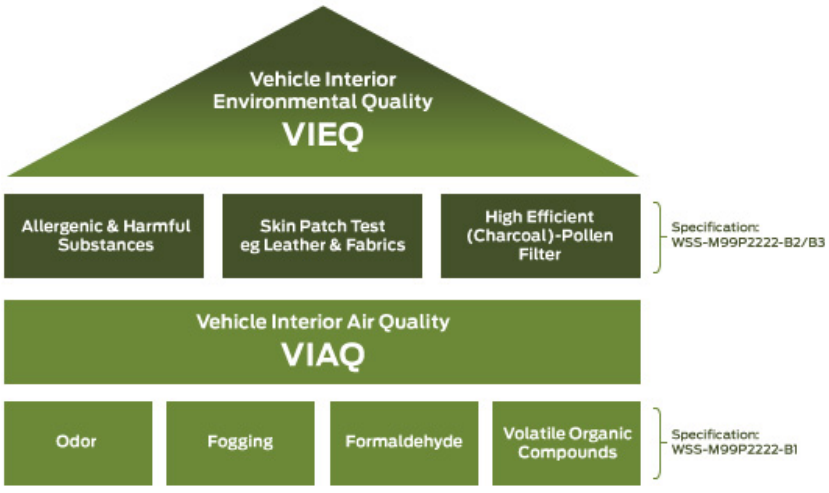
Improving Vehicle Interior Environmental Quality and Choosing Allergy-Tested Materials

At Ford, it is our corporate social responsibility to develop and offer products that are safe, sustainable and progressive. As part of this effort, Ford is proactively addressing society's growing concern about vehicle interior environmental quality, including air quality and allergens. Consistent with our ONE Ford global integration plan, a global cross-functional team at Ford focuses on selecting interior materials to reduce the risk of allergies and volatile organic compounds and works with suppliers to verify that we meet voluntary initiatives through rigorous scientific testing. This team is committed to investigating and developing comprehensive global approaches and strategies to address issues relating to vehicle interior air quality. The team has established global design guidelines for materials and filtration and is migrating those guidelines across Ford's product line.

Specifically, this team has been working since 2007 to develop a set of Vehicle Interior Air Quality (VIAQ) specifications that will require the consideration of the air quality and allergen impacts of the materials and components in our vehicles. Under this standard, vehicle engineers test more than 100 materials and components for allergy issues. In addition, all components that have direct and prolonged skin contact – such as the steering wheel and seat covers – are dermatologically tested. The complete VIAQ standards include requirements for fogging and odor at the component level, air filtration, allergy patch testing and total vehicle organic compounds. Many vehicles are also equipped with high-performance pollen filters to prevent allergenic pollens from entering the vehicle. Initially, the requirements were applied to European-based vehicles, and we are now phasing them in in the U.S. We plan to implement them in our South American and Asia Pacific and Africa operations in the future.

We are also implementing a voluntary vehicle interior air quality and allergen-free third-party certification process. This certification can be used by vehicle engineers in markets where certification is likely to be valued by consumers.

The following graphic shows our overall approach to improving vehicle interior environmental quality, including our allergen and VIAQ specifications.



Ford of Europe vehicles were the first vehicles worldwide to be awarded an "allergy-tested interior" certification by TÜV Rheinland, a Germany-based organization that controls and approves quality standards for industrial and consumer products. To obtain this certification, components in the vehicle interior must meet strict requirements focused on three key areas: measuring and meeting standards for the in-vehicle concentration of volatile organic compounds; minimizing the risk of allergic reactions; and high-efficiency air filtration. The requirements for minimizing the risk of allergic reactions include ensuring that no substances with allergenic potential (e.g., latex, nickel, chromium VI) are used for components likely to have contact with people's skin. They also require the use of an efficient pollen filter to protect passengers against allergenic particles in the outdoor air.

Nine of Ford's European models have met these requirements: the new Ford Fiesta, European Focus (including the Focus Coupe-Cabriolet), European Fusion, five-passenger C-MAX, seven-passenger Grand C-MAX, Kuga, S-MAX, Galaxy and Mondeo. In February 2008, the Berlin-based European Center for Allergy Research Foundation awarded Ford with its quality certificate – an additional recognition of the Company's "allergy-tested interior vehicle" initiative.

Related Links

This Report:
- Working as One Team

Vehicle Websites:
- Ford Fiesta
- Ford Focus
- Ford Fusion
- Ford C-Max
- Ford Kuga
- Ford Galaxy
- Ford Mondeo

Eliminating Undesirable Materials

For more than 20 years, our Restricted Substance Management Standard has spelled out materials to be avoided or eliminated in Ford operations and in the parts and materials provided by suppliers. This and other materials management tools are helping us to meet and exceed customer expectations and ensure compliance with regulations.

Eliminating Mercury

Ford has decreased the use of mercury-containing components, which can pose problems at the end of a vehicle's life. In 2001, we eliminated mercury-containing switches, which accounted for more than 99 percent of the mercury used in our U.S. vehicles. Since that time, we have continued to focus on mercury reduction, eliminating mercury in navigation system screens and family entertainment system screens and reducing the use of mercury in high-intensity discharge headlamps. As of 2010, all Ford and Lincoln vehicles in the U.S. are mercury-free, with the exception of the Lincoln Town Car, which uses mercury in its high-intensity discharge headlamps.

In addition, we helped to forge a collaboration between the U.S. Environmental Protection Agency (EPA), states, auto dismantlers, auto scrap recyclers, steelmakers and environmental groups to recycle mercury switches from end-of-life vehicles. This effort was rolled out across the U.S. in 2007 and now has more than 9,250 participants joining the effort from the recycling industry. By the end of 2009, more than 3.5 tons of mercury from these switches had been recovered. An online database tracks the number of participants in the program as well as the number of switches collected by state.

In Europe, an EU End-of-Life Vehicle directive and a Battery directive prohibit the use of the heavy metals lead, cadmium, hexavalent chromium and mercury, with limited exceptions. These regulations also include broad manufacturer responsibility for disposing of vehicle parts and substances, including taking vehicles back without charge for disposal and recycling requirements. This legislation has triggered similar regulatory actions around the globe, including, for example, in China and Korea and possibly in India in the near future. Ford is complying with all of these regulations.

Eliminating Chromium and Lead

Hexavalent chromium – "hex chrome" for short – is a corrosion coating (used, for example, on nuts, bolts and brackets in cars and trucks) that the U.S. Occupational Safety and Health Administration lists as a potential lung carcinogen. We did not wait for global regulations banning the use of hex chrome to take effect: we phased out its use worldwide. By 2007, Ford eliminated all hex chrome-containing parts in Europe and North America. Replacement coatings have been thoroughly tested to ensure that they meet Ford's performance requirements.

In North America, Ford has also completed the transition away from lead wheel weights. In addition, Ford's Customer Service Division no longer offers lead wheel weights for sale to dealers, offering steel wheel weights instead.

Ford has joined the EPA and other stakeholders in a commitment to reduce the use of lead in wheel weights through participation in the National Lead-Free Wheel Weight Initiative. Through this initiative, Ford has shared its experience with lead wheel weight phase-out with aftermarket wheel balancers, and encourages all stakeholders to discontinue the use of lead in wheel weights.

In mid-2003, Ford of Europe phased out lead in valve seats in all new vehicle models approved for launch in the European Union. Also in Europe, we phased out the use of lead wheel weights and reduced the lead content in aluminum in new and serviced vehicles in mid-2005, and phased out lead in pyrotechnic initiators by mid-2006. We further reduced the lead content in aluminum in 2008. A study by the Oeko-Institute in Germany calculated that, between 2000 and 2005, lifecycle emissions from lead had been reduced by 99.6 percent, from hexavalent chromium by 99.99 percent and from cadmium by 96 percent in Europe.

Reducing Undesirable Chemicals

Ford is one of the first automotive companies to begin efforts to reduce a range of undesirable chemicals that are monitored by the EU, U.S. and Canadian governments. These chemicals include hexabromocyclododecane (HBCDD), a chemical that has been identified as a substance of concern under the European Union's REACH regulations (Registration, Evaluation, Authorization and restriction of Chemicals). Ford is also working to reduce decabromodiphenyl ether (Deca-BDE), another substance of concern that the EPA has proposed to regulate. Ford is working to eliminate these substances ahead of the timelines defined by governmental regulations by working with suppliers to develop new and "greener" alternative materials that will make our products more environmentally friendly.

Related Links

This Report:
- Materials Management

External Websites:
- REACH

More and more countries are adopting chemical and substance of concern regulations like REACH. Turkey and Romania adopted their own versions of REACH in 2009; China adopted its own version in October 2010. South Korea and Japan will soon adopt REACH-like regulations to manage their chemicals. In the U.S., the federal Senate and House both proposed bills in 2010 to overhaul the Toxic Substances Control Act. The state of California is planning to promulgate regulations implementing a Green Chemistry law in 2011. And in January 2009, the UN implemented regulations requiring a globally harmonized system of classification and labeling of chemicals.

Regulatory requirements for the phase out of undesirable chemicals need to be prioritized and implemented in a workable manner. Government and industry resource constraints mean that not all chemicals of concern can be addressed at once. Moreover, manufacturers and suppliers need adequate lead-time to identify replacement substances that are more environmentally friendly than the ones they replace, and also to design and engineer components that incorporate these new substances. Ford will continue to work with regulatory agencies to help develop rules that target the highest-priority chemicals first, and that drive steady progress toward the elimination of chemicals of concern in an effective and efficient manner.

For more on Ford's efforts to manage materials and chemicals please see the Materials Management section.

End of Life

Automobiles are one of the most highly recycled consumer products in the world. All vehicles contain parts and materials – particularly iron, steel and aluminum – that can be recovered at the end of their useful lives. In North America, about 95 percent of vehicles that go out of registration are processed by a dismantler or scrap metal recycling facility, with approximately 86 percent of the vehicle by weight recovered for reuse, remanufacturing or recycling.

In theory, end-of-life vehicles are nearly 100 percent recoverable. In practice, however, the cost in energy and labor to recover the final fractions often exceeds the value of the materials, and recent independently reviewed environmental studies suggest that such efforts offer no value to the environment. Ford focuses on achieving the highest economically viable and environmentally sound recovery percentage through a number of means, including selection of materials, labeling and providing information to dismantlers on materials and methods for treatment.

In the EU, automakers are required by EU Directive 2000/53/EC to ensure a cost-free take-back of vehicles (that they put on the market) at the end of their lives. This directive also requires that end-of-life vehicles (ELVs) are treated in an environmentally responsible manner. Since 2002, Ford has been at the forefront of providing return networks in the EU member states that have established regulations. Ford now has ELV take-back and recycling networks for Ford brand vehicles in 18 EU markets and participates in collective ELV recycling systems in another 10. Ford was the first major manufacturer in the UK to put in place a comprehensive plan that met the European Commission's ELV directive. By working with Cartakeback.com, Ltd., we have a network of nearly 250 facilities providing unrivalled convenience to the last owner for the professional take-back, receipt and treatment of end-of-life vehicles.

In May 2007, Ford became one of the first European automakers to be certified in compliance with ELV requirements by demonstrating to external authorities that the Ford processes properly manage the reusability, recyclability and recoverability aspects of vehicles. In 2010, this certification was extended by another three years and now comprises all of Ford Motor Company operations globally. All Ford vehicles marketed in Europe are now certified as reaching recyclability of 85 percent and recoverability of 95 percent. An increasing number of vehicle models produced and designed in the U.S. are also following this approach. For example, 11 U.S. models exported to South Korea are providing self-certification documents meeting the 85–95 percent recyclability requirement.

Ford has participated in research into alternative treatments for end-of-life vehicles. Most of the plastic, foam and other non-metal vehicle materials end up being shredded. Most of this "auto shredder residue" (ASR) ends up going to landfill. We have been working to assess the environmental impacts of burning ASR for energy. Together with other European automotive manufacturers, we sponsored a fully ISO 14040-compliant lifecycle assessment that showed that – from a purely environmental point of view – using recycled ASR for energy recovery is as beneficial as recycling it.

Related Links

External Websites:
- European End of Life Vehicles

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Operations

We have adopted a rigorous and holistic approach to reducing the overall environmental impacts of our manufacturing facilities. We have established global facility environmental targets that address the range of our environmental impacts, including energy use, emissions, water use and waste generation.

Every facility uses a detailed scorecard to report against environmental targets, so that we can track and accelerate improvements. Progress toward the targets is reviewed throughout the year by senior management at regular Business Plan Review meetings. In addition, these targets become part of the performance review metrics for every plant manager and regional manufacturing manager, as well as others in the management hierarchy up to the Executive Vice President of Manufacturing and Labor Affairs. Our 2010 and 2011 targets and progress are shown in the Year-over-Year Environmental Targets chart.

To facilitate performance tracking, we launched the Global Emissions Manager database (GEM) in 2007. This industry-leading database provides a globally consistent approach for measuring and monitoring environmental data, which helps us track and improve our efforts to reduce water consumption, energy use, carbon dioxide emissions and the amount of waste sent to landfill. GEM also provides a library of environmental regulations relevant to each plant, significantly increasing the efficiency of tracking and meeting those regulations.

This section reports on our facilities' environmental performance, including non-CO_2 facilities-related emissions (including volatile organic compounds), water use, waste reduction, sustainable land use and biodiversity, compliance and remediation.

Operational energy use and greenhouse gas emissions are discussed in the Climate Change section.

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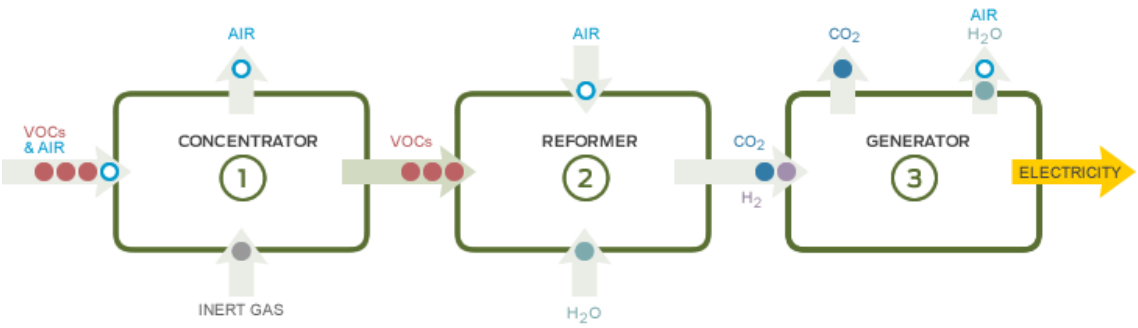
Non-CO_2, Facility-Related Emissions

We report on a variety of facilities-related emissions in the Environment data section of this website. Our facility-related greenhouse gas emissions (GHG) are discussed in the Climate Change Facilities section. The metrics and data for our GHG emissions and our non-GHG, facility-related emissions can be found in the Environment data section.

In this section, we discuss how we are reducing emissions of volatile organic compounds (VOCs) at our facilities. VOCs are a significant aspect of Ford's manufacturing operations due to the size and number of paint shops that we operate.

Since 2000, Ford's North American operations have cut VOC emissions associated with the painting process (by far our largest source of VOC emissions) by more than 30 percent. In 2010, these operations emitted 21.6 grams of VOCs per square meter of surface coated. Because the control equipment used to reduce VOC emissions consumes significant amounts of energy, we have worked to identify innovative approaches to painting that meet cost, quality and production goals while allowing us to reduce energy use significantly and maintain environmental compliance.

In one innovative approach, Ford developed a "fumes-to-fuel" system in partnership with Detroit Edison. Initially tested at the Ford Rouge Center, the system concentrated fumes containing VOC emissions from solvent-based paint for use as fuel to generate electricity. The fuel was tested on a solid oxide fuel cell.



Generating electricity from paint fumes

Move over the numbers above to see what happens at each stage.

1. CONCENTRATOR
   Strips air from paint fumes, leaving concentrated volatile organic compounds (VOCs)
2. REFORMER
   Ford-patented process converts VOCs to hydrogen gas
3. GENERATOR
   Uses hydrogen gas as fuel for fuel cell or conventional power plant to make electricity

To further support these research and development efforts, in 2008 a research facility was built at our assembly plant in Oakville, Canada, with support from the Canadian government. This site contains a production-scale version of the fumes-to-fuel system, including a paint emissions concentrator, a VOC fuel reformer, a 300 kW molten carbonate fuel cell and a 120 kW internal combustion engine. The intent of this technology is to collect a portion of the VOCs from the spray booth exhaust, then super-concentrate the VOCs in the paint emissions concentrator, followed by condensing the VOCs for use as a fuel for either the 120 kW internal combustion engine or as feed to the VOC reformer, which would then be used in the 300 kW molten carbonate fuel cell.

In 2010, the paint emission concentrator at this facility continued to run and generate solvent, and the internal combustion engine continued to be evaluated for long-term performance. In addition, the VOC reformer was started up, and operations are now being optimized for long-term performance. Research efforts are now underway with two Canadian universities to help drive the research and development of this innovative technology.

Ford's fumes-to-fuel system, with or without energy generation, has the potential to reduce carbon dioxide (CO_2) emissions by 80 percent to 85 percent compared to traditional abatement equipment. A fumes-to-fuel system with energy generation using the fuel cell also has the

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- Facilities

potential to eliminate nitrogen oxide emissions.

Moreover, we are reducing VOC emissions with an innovative paint process called “three wet.” This process reduces VOC emissions by 10 percent and has other environmental, financial and quality benefits. For more information on three wet, please see the Climate Change Facilities section.

Water Use

A decade ago, Ford launched a water-reduction initiative and set a target of 3 percent year-over-year reductions in water use. We have exceeded this goal. From 2000 to 2010, Ford's global manufacturing operations reduced water consumption by 62 percent, or 10.5 billion gallons. While our global water use increased slightly – by 1 percent – from 2009 to 2010, our water use per vehicle decreased from 5.2 cubic meters in 2009 to 4.8 cubic meters in 2010, which reflects the fact that we are using water more efficiently during production.

At the end of 2010, we revised and updated our Ford Motor Company Water Strategy, which looks at our water use from both an environmental and a social perspective. To better understand our water impacts, we have undertaken an assessment of our water footprint throughout the lifecycle of our vehicles. For more information about our water strategy and approach to water use, please see our new Water section.

The new strategy builds on the water-use reduction strategy we began 10 years ago. When we initiated our water-reduction goals in 2000, many facilities had little ability to track their water usage. Ford engineers thus developed a patented Water Estimation Tool (WET), a software program that helps facilities to predict their water usage. They then paired WET with WILD (Water Ideas to Lessen Demand), a list of practical ideas for reducing water use depending on where and when use is the greatest. Our facilities made good progress for several years, meeting or exceeding the 3 percent year-over-year water-reduction goal that applied to all facilities. To encourage continued progress, Ford environmental engineers are developing "single point lessons" that document practices demonstrated to save water. These lessons are cascaded for mandatory implementation in all facilities and are included in facility business plans. Single point lessons implemented thus far include leak identification, cooling tower optimization and vehicle water testing.

Water use at each facility is also tracked in the Global Emissions Manager (GEM) database, our global emissions management and tracking system. Water use is included in GEM in a monthly tracking scorecard reviewed by senior management. The water use tracking and reporting provided by GEM has been a key factor in our ability to understand and reduce our water use.

In addition, we are using an innovative new machining process, called minimum quantity lubricant (MQL) machining, to reduce water use. In MQL machining, the cutting tool is lubricated with a very small amount of oil sprayed directly on the tip of the tool in a finely atomized mist, instead of with a large quantity of coolant/water mixture. The process saves hundreds of thousands of gallons of water and oil per year. By eliminating the coolant/water mixture, MQL machining eliminates the need to treat and dispose of an oily waste stream. The MQL process is also delivering significant benefits in energy use, waste production, quality, working conditions and costs. We have already implemented the MQL system at a number of transmission and engine plants in the U.S., UK and Europe and are currently investigating possible applications in our Asia Pacific plants.

Managers at all of our plants continually strive to use water more efficiently. In 2011, Ford's Valencia (Spain) Plant received a "Premio ECO-Excelencia 2011" recognition from the Ministry of Environment, in recognition of the plant's continued efforts in environmental preservation and particularly for their actions to reduce water use and improve wastewater treatment. This award recognized the plant for developing an alternative wastewater treatment system that reduces the use of chemicals and the development of hazardous waste resulting from the treatment process.

In Mexico in 2010, our Chihuahua Engine Plant (CHEP) won the Environmental Leadership for Competitiveness Award from the Mexican federal environmental agency. This recognition rewards companies for implementing actions to improve environmental performance. Overall, the plant is saving 32,416 cubic meters of water per year due to their environmental leadership projects. Examples include the following:

- The plant is now using reverse-osmosis-treated gray water from the city water system instead of fresh drinking water in the cooling towers of compressor machines and in all other manufacturing processes. This system saves more than 3,500 cubic meters of water per year and more than 290,000 pesos, or almost $25,000 per year.
- They are also using reverse-osmosis-treated water for washing equipment and floors in the facility instead of using drinking water. This project is estimated to save 28 cubic meters of fresh water per year and approximately 475,000 pesos, or over $40,000 per year.
- The plant is saving an additional 112 cubic meters of water and over 140,000 pesos, or approximately $12,000 per year by switching to a new floor cleaning system.

These efforts build on CHEP's continuing efforts to reduce water use. Overall, the plant's use of city gray water instead of drinking water has reduced consumption of drinking water at the plant by 60 percent since 2005. The plant also treats and recycles its own gray water from sinks, dining

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- Water
- Environment Data: Water Use

rooms and showers for use irrigating the facility grounds. As a result of these efforts, city-provided drinking water supplies are now only used for human consumption at CHEP. See the Water Reductions at the Chihuahua Engine Plant case study for more information.

Waste Management

Ford's environmental goals include reducing the amount and toxicity of manufacturing-related wastes and ultimately eliminating the disposal of waste in landfills. Manufacturing byproducts include both hazardous and nonhazardous wastes. Ford has chosen to target eliminating the landfill of hazardous waste first, because this provides the quickest and most cost-effective benefits to human health and the environment.

In 2010, Ford facilities globally sent approximately 73,000 metric tons of waste to landfill, a slight increase of 4.6 percent from 2009. This increase is the result of higher production from 2009 to 2010. However, we reduced waste to landfill on a per-vehicle basis by about 13 percent, which reflects the fact that we are reducing waste produced per unit of production. Also in 2010, Ford facilities globally generated approximately 43,000 metric tons of hazardous waste, an increase of 9 percent from 2009. Again, this increase is the result of higher production from 2009 to 2010. However, we reduced hazardous waste on a per-vehicle basis by 9 percent.

The following Ford facilities have achieved zero waste to landfill: the Rawsonville Engine Plant in Michigan; the Cologne, Germany, manufacturing facilities, including the Engine and Vehicle Operations plants, technology development center and Ford Customer Service Division facility; the Saarlouis Body and Assembly Plant in Germany; the Genk Assembly Plant in Belgium; our assembly and powertrain plants in India; our Lio Ho plant in Taiwan; and our joint-venture assembly plant with JMC in Nanchang, China.

Managers at all of our plants strive continually to increase their waste recycling. Ford's Geelong Foundry in Australia, for example, has developed processes to recycle foundry sand, scrap steel and process water. These recycling efforts are saving the plant almost $900,000 annually. The foundry is one of the few facilities in the world that does not buy any steel or pig iron from external recyclers. Instead, the facility uses recycled scrap steel generated by Ford's nearby stamping plant. To use this scrap steel, which has been coated with zinc rust-proofing materials, the foundry developed a new melting process that makes it possible to reuse the metal scraps without impacting the environment. The facility also has begun to recycle process water in a closed-loop system that allows water to be reused again and again. In addition, the foundry developed a process to separate metal and different sand components from used foundry sand. Metals are melted down and fed back into the foundry process, while used sands are shipped off for use in cement manufacturing and road building. The Geelong Foundry won Ford's 2010 Environmental Leadership Award for the Asia Pacific and Africa region for this project.

Ford's Sharonville Transmission Plant in Cincinnati, Ohio, won the 2010 Environmental Leadership Award for the North America region, for their efforts to recapture and recycle waste oil from machining processes. Through this project, machining oil is removed from machining "swarf," the fine metallic byproducts that result from the machining process. The collected machining oil is recycled, substantially reducing the volume of total machining waste and reusing a valuable resource instead of sending it to a landfill. As a result of these oil-recycling practices, the Sharonville Transmission Plant expects to recycle approximately 40,000 gallons of oil per year at an annual cost saving of $395,000.

In 2010, our Ohio Assembly Plant in Avon Lake received a Silver Award for its recycling efforts from the Lorain County Solid Waste Management District. This award recognized the plant's successful efforts to reduce waste to landfill and increase recycling. In 2010, the plant recycled 2,539 tons of material from eight different waste streams, including cardboard, plastics, wood, steel and more. The Ohio Assembly Plant achieved these results through the work of a cross-functional team that targeted packaging waste as well as other waste streams. The team's efforts resulted in reducing waste to landfill by more than 30 percent. Ohio Assembly was runner-up for Ford's Environmental Leadership Award for the North America region for these waste-reduction actions.

Ford's Kocaeli Assembly Plant in Turkey won our 2010 Environmental Leadership Award in the Europe region for an innovative approach to waste reduction. The plant's "Six Sigma" team, led by the Maintenance and Environmental Engineering Department, implemented a new sludge de-watering process that reduces wastewater treatment plant sludge waste by nearly 57 percent and reduces disposal costs by nearly 87 percent. The process uses a drying unit to de-water sludge waste after it has been through the conventional sludge thickening and filtering process. The dried sludge can then be used as an energy source for local cement facilities. Previously it had to be disposed of as a waste product in landfills or incinerated.

In South America, Ford's Taubate Plant began recycling all of the organic waste generated by its cafeteria in 2010 to generate fertilizer rather than be disposed of in a landfill. The project was the result of a cross-functional team that included employees of Ford and the cafeteria supplier, Gran Sapore.

Finally, our Dunton facility in England has initiated a waste management contract whereby all

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general waste materials onsite (454 metric tons in 2010) are recycled via a materials recovery facility instead of going direct to landfill, resulting in at least a 90 percent recycling rate. Dunton continues to segregate and recycle 100 percent of its waste metal, paper, wood, cardboard, vehicles and parts, as well as waste electrical and electronic equipment.

Sustainable Land Use and Biodiversity

Our activities have the potential to affect land use, nature and biodiversity, directly and indirectly. Our real estate portfolio includes properties for manufacturing and office use. The construction and operation of these facilities have direct impacts on land.

Ford's most significant potential impacts on land and biodiversity are indirect, occurring elsewhere in our value chain or arising from the use of our vehicles. Indirect impacts include the extraction of raw materials to make vehicle parts, habitat fragmentation from road construction, localized pollution from vehicles and the potential effects of climate change on biodiversity.

Many of our facilities have taken steps to improve biodiversity and wildlife habitat on their lands, as follows.

Sustainable Landscapes

A highly visible example of Ford's commitment to sustainability can be seen on more than 200 acres of Ford-owned land throughout southeast Michigan, which is adorned with sunflowers, wildflowers, prairie plants and other non-turf grass plantings. This landscaping provides habitat for wildlife: for example, fox, wild turkeys and coyote have been spotted on Ford properties. This landscaping reduces mowing and other maintenance costs. By replacing what otherwise would be traditional turf grass, the Company saves approximately 30 percent on the costs of labor, gas and fertilizer. We also use native plants in our landscaping whenever possible, which require less water and fertilizer to maintain.

We are also installing "smart" irrigation systems at some of our Dearborn (Michigan) properties. These systems use site conditions – such as soil and plant types, evapo-transpiration rates and local weather data – to program watering only when it is needed. Based on the experience of other uses, we expect to see water savings from these systems of 30 percent. If the systems prove successful, we plan to implement them at approximately 60 additional Ford sites in the next few years.

Creating Wildlife Habitat

Ford has created wildlife habitats at many of our facilities. We are committed to maintaining our existing wildlife habitat sites and to creating as many new sites as possible in the future. Wildlife habitats on Ford facilities range in size from five acres to more than 100 acres and include ecosystems as diverse as wetlands, woodlands, prairies, meadows and forests. Ford employees, often in partnership with local civic and education groups, develop and maintain the habitats, which host dozens of native plant and wildlife species. At many of the facilities, employees and other volunteers have built nature trails, erected bird and bat houses and planted wildflower gardens, in addition to establishing wildlife habitats. These facilities have also developed community education programs to encourage broader understanding of the importance of corporate wildlife sanctuaries.

In 2009, Ford's Romeo Engine Plant in Romeo, Michigan, was awarded a Neighborhood Environmental Partners Award from the Michigan Department of Environmental Quality for its work to build wildlife habitat on the plant site. Plant employees have worked hard to preserve and enhance the wildlife habitat available on the site's 141 acres, planting trees and building nest boxes to attract native birds, including bluebirds and screech owls. To promote habitat awareness and increase community participation, the Romeo Engine Plant's wildlife team organizes an annual tree sale and plant exchange, and plant employees organize clean-ups and other activities to celebrate Earth Day.

In February 2010, Ford and Automotive Components Holdings announced the donation of a coastal wetland in Monroe, Michigan, to the U.S. Fish and Wildlife Service. The property, known as Ford Marsh, will add 242 acres to the Detroit River International Wildlife Refuge.

In Europe, we have created large natural reserves at our facilities in Valencia, Spain, and Kocaeli, Turkey.

Our Mexican operations and dealers are also working to protect wildlife habitat and biodiversity. Since 1997, our Mexican operation's "civic committee" has been funding work to protect the peninsular pronghorn, an endangered species in Baja, California. This project has used captive breeding and reintroduction into the wild to increase the number of pronghorns. When the program first began, there were only 160 pronghorns in the area. A comprehensive field census is currently underway, but project managers estimate there are now nearly 900. This project has received global attention because it is one of the only species that has been successfully reintroduced into the wild and is reproducing naturally in its own habitat. This project is managed by Espacios Naturales y Desarrollo Sustentable, a nonprofit organization, and Comisión Nacional

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- Sustainable Materials
- Non-CO_2 Tailpipe Emissions

de Areas Naturales Protegidas, the government office that oversees natural protected areas. The project also receives support from Animal Kingdom, the San Diego Zoo and other international wildlife organizations.

Our Mexican operation's civic committee is also funding the "Mexican Natural Reserves: A Natural Solution for Climate Change," a communications campaign to raise awareness about the more than 150 natural protected areas in Mexico. The campaign is intended to foster understanding of the important services that these natural areas provide to communities, including air and water purification, food and wildlife habitat. So far, this project has produced several videos of natural areas shown in cinemas, airline TV programs, buses, airports and other locations. The project also includes a print campaign. We are planning to assist with a second phase of this project, which will focus on how people can help to protect natural areas.

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Green Buildings

Ford is a leader in green building, committed to the sustainable design of our facilities and landscapes using the basic principles of resource effectiveness, lifecycle assessment, health, safety and environmental performance. In the past, we have included green building design principles into our buildings on a case-by-case basis. To help standardize and broaden our efforts in this area, we are currently developing corporate specifications for building new facilities that will focus on sustainability. These specifications require that new manufacturing facilities are designed and constructed using the best practices Ford has developed at plants all over the world. These standards will act to replicate best practices across our global operations and create efficient and sustainable plants. Some examples of best engineering practices that will be implemented in our new facilities include:

- Advanced water-treatment technologies to allow the reuse of water and reduce water supply requirements, water discharges, use of treatment chemicals and generation of solid waste
- Energy-saving technologies such as advanced control of air compressors, high-efficiency lights, variable-drive electric motors, skylights and daylighting, and white roofing materials
- Advanced paint shop technologies to reduce emissions, energy use and waste, including wet-on-wet paint and advanced automated paint application equipment

For more information on our plans to develop new plants please see Case Study: Sustainable Growth in Asia.

Ford is a member of the U.S. Green Building Council and a supporter of its green building rating system, known as LEED® (Leadership in Energy and Environmental Design). The LEED system includes a series of standards used for certifying buildings as “silver,” “gold” or “platinum.” It is recognized as the industry standard for green building. Ford employees who are involved in the design, operation and maintenance of commercial and manufacturing facilities have obtained LEED Accredited Professional certification, which demonstrates their proficiency in the application of the LEED rating systems. Having this expertise in-house will continue to strengthen our knowledge and the speed at which we apply environmentally sustainable technologies and processes at our facilities.

Ford is evaluating existing buildings to achieve LEED certification. The LEED v3 Building and Operations Maintenance Rating System, or LEED GBOM, helps building operators measure operations, improvements and maintenance on a consistent scale, with the goal of maximizing operational efficiency while minimizing environmental impacts. The standards are intended to promote healthful and environmentally friendly buildings that are also durable, affordable and high performing by focusing on six key areas: sustainable site management, water efficiency, energy and atmosphere impacts, materials and resource use, indoor environmental quality and innovations in operations.

Ford is piloting the Existing Building certification process on Corporate Crossings, an office building that Ford developed in 1999 in Dearborn, Michigan. In 2010 we submitted our application for LEED-EB certification for Corporate Crossings. In 2011, we are evaluating our Research and Innovation Center in Dearborn, Michigan, with the goal of certifying this building as well. Based on the experience of certifying these buildings, Ford hopes to expand certification to other office buildings.

Ford is also working to advance green building practices through partnerships with our building-related service providers. These partnerships help to educate service providers and provide a forum to exchange information on the concepts of sustainable design. For example, we have held training sessions on site selection, water efficiency, energy use reductions, sustainable materials and resources, and indoor environmental quality.

Green Dealership – Dagenham Motors, Barking, United Kingdom

Ford’s Dagenham motors dealership in Barking, England, recently built an all-new “green” dealership using the latest environmentally friendly materials and a number of sustainable and special energy-saving features. The new facility includes new and used car showrooms and a service center.

Water use at the facility is reduced by capturing rainwater runoff from the roof and storing it in a 3,500-gallon underground tank that supplies water for washing cars and flushing toilets. The rainwater-harvesting tank includes a UV sterilization unit and inline contaminate and particulate filters that enable the water to be suitable and hygienic for hand washing. In addition, waste oil from cars that have been serviced is re-used for heating the premises by fueling an integrated used oil burner on the site. In addition, a wind turbine was installed to generate up to 10 percent of the site’s electricity, and the facility used green construction practices. Approximately 1,800 square meters of nonhazardous soil that was excavated from the site during construction will be

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reused to landscape the site rather than being transported to landfill.

Green Housekeeping Program

Ford promotes the use of environmentally friendly products in the operation and maintenance of its facilities. One example of this is the continued expansion of our “green housekeeping” program. Through this program, we are working with our Tier 1 suppliers and contractors to promote the use of environmentally friendly cleaning practices and water-based products that help to reduce the impact of facility operations on the environment. Our cleaning service providers use highly concentrated, water-based chemicals with more efficient packaging, which significantly reduces product waste and the amount of fuel required to ship products. These green housekeeping practices are now in use throughout our North American manufacturing locations and commercial office buildings.

Ford Rouge Center

Ford’s largest green building initiative is the redevelopment of the 600-acre Ford Rouge Center in Dearborn, Michigan, into a state-of-the-art lean, flexible and sustainable manufacturing center. The focal point of the center, the Dearborn Truck Plant, boasts a 10.4-acre living roof, part of an extensive stormwater management system that includes bio-swales and porous pavement to slow and cleanse the water. The Dearborn Truck Plant also features abundant skylights to maximize daylight in the facility. The Rouge Center features 100 acres of sustainable landscaping to help restore soils and support wildlife habitat.

Rouge Visitor Center (LEED-Gold)

The redeveloped Ford Rouge Center includes the LEED-Gold certified Rouge Visitor Center, a 30,000-square-foot facility featuring two multi-screen theaters and an observation deck. The facility uses rainwater for plumbing and irrigation, and solar panels to produce energy. In addition, “green screens” of shading vines cover some parts of the building to reduce energy use.

Fairlane Green (LEED-Gold)

Ford has developed a 1-million-square-foot green retail center on its 243-acre industrial waste landfill in Allen Park, Michigan, earning the national Phoenix Award for excellence in brownfield development. In addition, Fairlane Green Phase I received the nation’s first LEED-Gold certification for a core and shell retail development, for its use of retention ponds for irrigation, sustainable landscaping and white roofs, and for the preservation of natural areas. The buildings feature high-efficiency heating and cooling systems, added insulation and weather sealing, and efficient windows and doors.

Product Review Center (LEED-Silver)

Ford’s Product Review Center in Dearborn showcases Ford’s latest products and green building principles. The LEED-Silver-certified building incorporates an innovative system to recycle water for irrigation and cooling, large windows to maximize daylight and extensive use of local and recycled materials.

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Compliance

Manufacturing Plant Notices of Violation

Ford received four notices of violation (NOV) from government agencies in 2010. All but one of the NOVs received were in the U.S. The issuance of an NOV is an allegation of noncompliance with anything from a minor paperwork requirement to a permit limit, and does not mean that the Company was in noncompliance or received a penalty.

Offsite Spills

No offsite spills occurred at Ford manufacturing facilities in 2010.

Fines and Penalties Paid

In 2010, Ford paid $80,640 in fines and penalties for a violation at the Research and Engineering Center in Dearborn, Michigan.

Toolbox

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Remediation

Ringwood Mines Landfill Site

Ford Motor Company continues to address concerns raised in connection with Ford's prior disposal activities in Ringwood, New Jersey, including the adequacy of the prior investigation and cleanup. The Ringwood site was used for decades for the legal and illegal disposal of a wide variety of wastes by the Borough of Ringwood and other parties. Ford used the site to dispose of waste materials (primarily cardboard, wood wastes and paint sludge from the former Mahwah Assembly Plant) from 1967 to the middle of 1971. Ford participated in remediation activities at the site in the 1980s and 1990s. In September 2004, Ford entered into an Administrative Order on Consent and Settlement Agreement (AOC) with the U.S. Environmental Protection Agency (EPA) regarding additional environmental activities at the Ringwood site. The EPA also requested the Borough of Ringwood's assistance in completing work at the site, and the EPA issued a Unilateral Administrative Order to the Borough regarding the Ringwood site. Ford entered into a second AOC with the EPA in May 2010 that obligates Ford to complete the remedial site investigations, human health and ecological risk assessments, as well as feasibility studies for each of the operable units. Ford is conducting further interim removal work at the site under the direction of the EPA and the New Jersey Department of Environmental Protection. It is anticipated that construction of the final remedies will begin in 2012.

Data

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Fuel Economy and CO_2 Emissions

- Ford U.S. Corporate Average Fuel Economy
- Ford U.S. CO_2 Tailpipe Emissions Per Vehicle (Combined Car and Truck Fleet Average CO_2 Emissions)
- Ford Europe CO_2 Tailpipe Emissions Per Vehicle

Tailpipe Emissions

- Ford U.S. Average NOx Emissions
- Ford U.S. Average NMOG Emissions
- Ford U.S. Average Vehicle Emissions

Operational Energy Use and CO_2 Emissions

- Worldwide Facility Energy Consumption
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Water Use

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Fuel Economy and CO_2 Emissions

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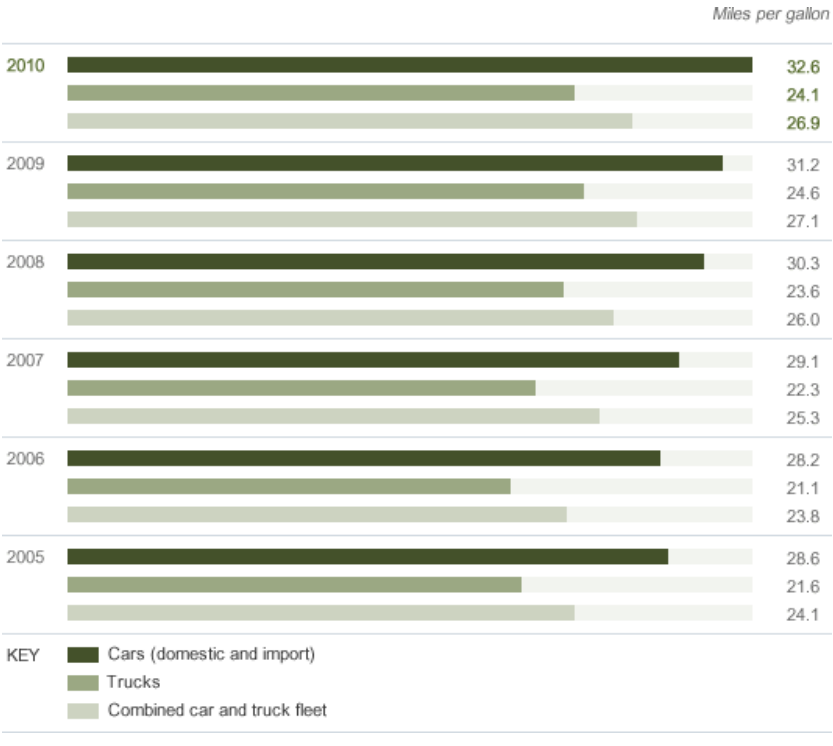
A. Ford U.S. Corporate Average Fuel Economy

Chart | Table



Miles per gallon

	2005	2006	2007	2008	2009	2010
Cars (domestic and import)	28.6	28.2	29.1	30.3	31.2	32.6
Trucks	21.6	21.1	22.3	23.6	24.6	24.1
Combined car and truck fleet	24.1	23.8	25.3	26.0	27.1	26.9

Reported to regulatory authorities

Notes to Data | Analysis | Related Links

The decrease in the combined car and truck year-over-year fuel economy is due to a shift in our mix of vehicles sold, including a longer model year for certain trucks and the removal of Volvo from the 2010 data.

For the 2010 model year, our fleet fuel economy declined slightly by about 1 percent relative to the 2009 model year due to a shift in our mix of vehicles sold, including a longer model year for certain trucks and the removal of Volvo from the 2010 data. Preliminary data for the 2011 model year project that the

Corporate Average Fuel Economy (CAFE) values for the car and truck fleets will be about the same as the car and truck fleet averages for the 2010 model year. On an overall fleet basis, preliminary estimates indicate a 2011 CAFE improvement of 2.9 percent compared to 2010. The reason the overall fleet average can improve while the individually calculated car and truck fleet averages remain about the same is that there have been changes to the vehicles required to be included in the car and truck categories.

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- Vehicle

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B. Ford U.S. CO_2 Tailpipe Emissions Per Vehicle (Combined Car and Truck Fleet Average CO_2 Emissions)

Chart | Table

Grams per mile

Grams per mile

2005	2006	2007	2008	2009	2010
368	371	352	340	326	329

Notes to Data | Analysis | Related Links

Improvement is reflected in decreasing grams per mile.

For the 2010 model year, our fleet CO_2 emissions increased slightly by about 1 percent relative to the 2009 model year, but have improved 11 percent compared to the 2006 model year.

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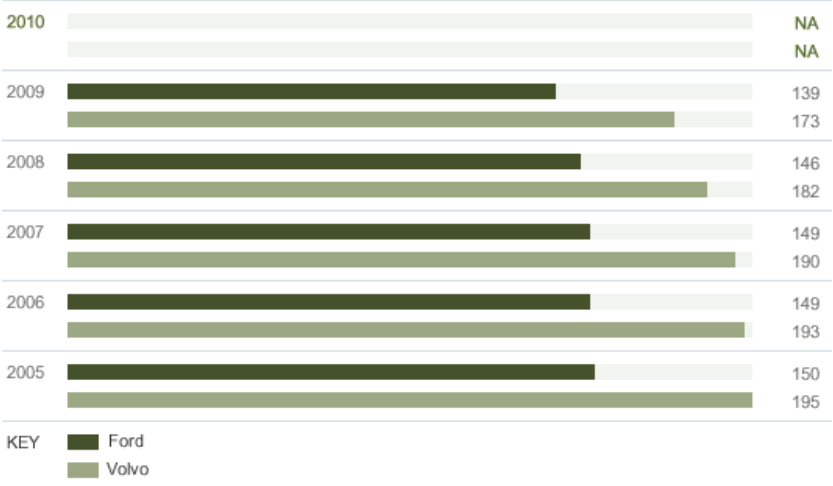
C. Ford Europe CO_2 Tailpipe Emissions Per Vehicle

Chart | Table

Grams per kilometer



Grams per kilometer

	2005	2006	2007	2008	2009	2010
Ford	150	149	149	146	139	NA

Volvo	195	193	190	182	173	NA

Notes to Data | Analysis | Related Links

Improvement is reflected in decreasing grams per kilometer.

Based on production data for European markets. European and U.S. fleet CO_2 emissions are not directly comparable because they are calculated in different units and because they are assessed based on different drive cycles. In 2009, we switched from reporting European vehicle CO_2 emissions as a percent of a 1995 base to reporting actual fleet average CO_2 emissions, to parallel our reporting for other regions.

In Europe, we have reduced the average CO_2 emissions of 2010 model year vehicles by 8.1 percent compared to the 2006 model year (not including Volvo). We have achieved this through the introduction of a variety of innovations, such as advanced common rail diesel engines available across the European model range – including the ECOnetic range of low-CO_2 vehicles – and the use of lightweight materials.

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Tailpipe Emissions

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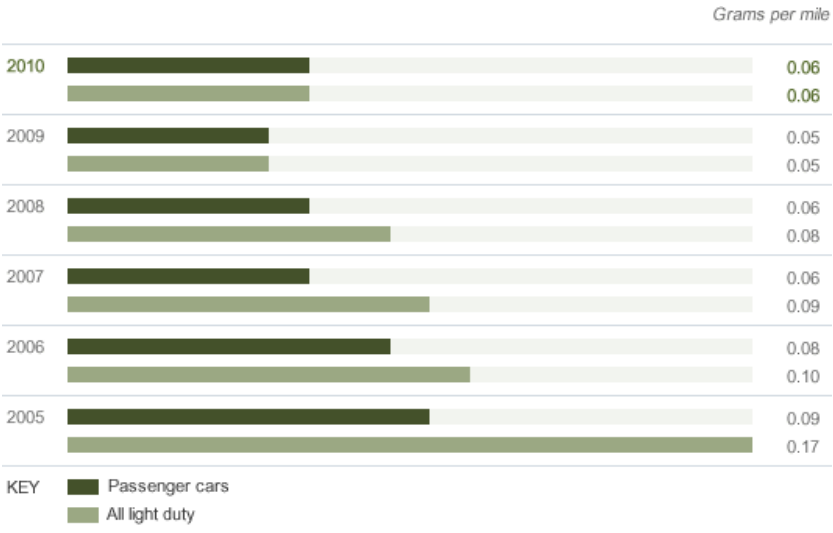
A. Ford U.S. Average NOx Emissions

Chart | Table



Grams per mile

	2005	2006	2007	2008	2009	2010
Passenger cars	0.09	0.08	0.06	0.06	0.05	0.06
All light duty	0.17	0.10	0.09	0.08	0.05	0.06

Reported to regulatory authorities (EPA)

Analysis | Related Links

In 2010, Ford's average NOx emissions increased slightly for the first time in seven years.

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- Non-CO_2 Tailpipe Emissions

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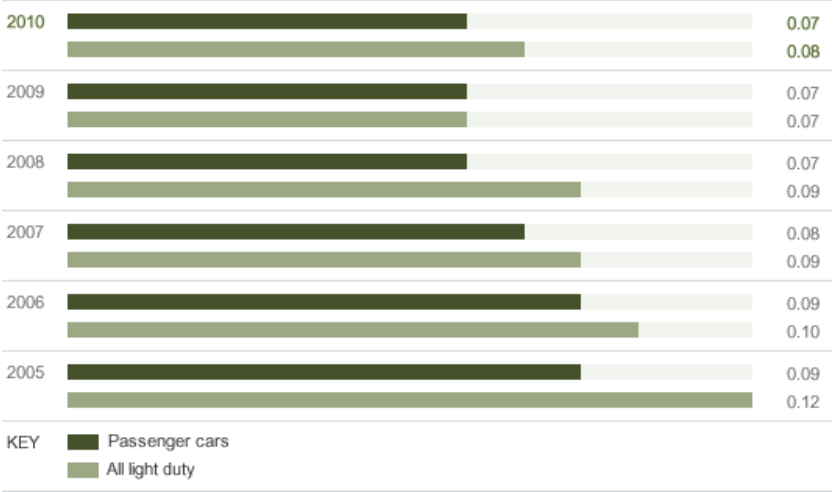
B. Ford U.S. Average NMOG Emissions

Chart | Table

Grams per mile



Grams per mile

	2005	2006	2007	2008	2009	2010
Passenger cars	0.09	0.09	0.08	0.07	0.07	0.07
All light duty	0.12	0.10	0.09	0.09	0.07	0.08

Reported to regulatory authorities (EPA)

Notes to Data | Analysis | Related Links

NMOG = Non-Methane Organic Gases

In 2010, Ford's average NMOG emissions remained the same for passenger cars, and increased slightly for all light-duty vehicles for the first time in seven years.

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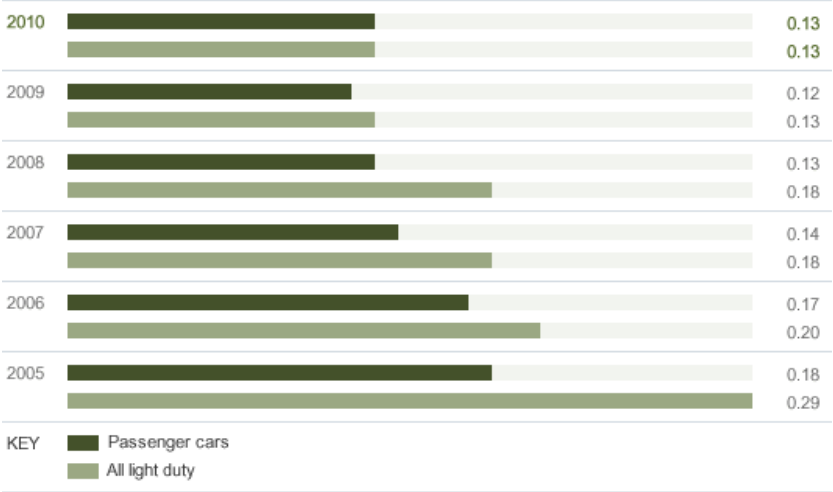
C. Ford U.S. Average Vehicle Emissions

Chart | Table

Grams per mile



Grams per mile

	2005	2006	2007	2008	2009	2010
Passenger cars	0.18	0.17	0.14	0.13	0.12	0.13
All light duty	0.29	0.20	0.18	0.18	0.13	0.13

Reported to regulatory authorities (EPA)

Average vehicle emissions are the smog-forming pollutants from vehicle tailpipes, characterized as the sum of [(NMOG + NOx emissions) x volume] for all products in the fleet.

In 2010, Ford's average vehicle emissions remained the same for all light-duty vehicles, and increased slightly for passenger cars for the first time in seven years.

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Operational Energy Use and CO_2 Emissions

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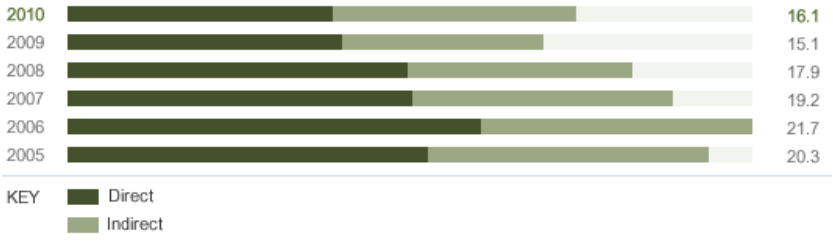
A. Worldwide Facility Energy Consumption

Chart | Table

Billion kilowatt hours



Billion kilowatt hours

	2005	2006	2007	2008	2009	2010
Direct	11.4	13.1	10.9	10.8	8.7	8.4
Indirect	8.9	8.6	8.3	7.1	6.4	7.7
Total	**20.4**	**21.7**	**19.2**	**17.9**	**15.1**	**16.1**

Data managed through the Global Emissions Manager database

Analysis | Related Links

In 2010, overall global energy consumption increased by 6.6 percent compared to 2009, due primarily to a 13 percent increase in production volume. This increase followed a four-year declining trend. For more information, please see Progress and Performance – Facilities

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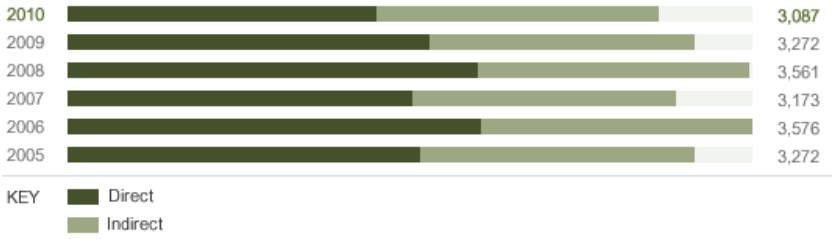
B. Worldwide Facility Energy Consumption Per Vehicle

Chart | Table

Kilowatt hours per vehicle



Kilowatt hours per vehicle

	2005	2006	2007	2008	2009	2010
Direct	1,837	2,161	1,804	2,142	1,891	1,609
Indirect	1,435	1,415	1,369	1,419	1,381	1,478
Total	**3,272**	**3,576**	**3,172**	**3,561**	**3,272**	**3,087**

Data managed through the Global Emissions Manager database

Analysis | Related Links

Our 2010 energy consumption per vehicle produced improved by 5.6 percent compared to 2009. These reductions were accomplished through a wide range of energy-efficiency projects. For more information, please see Progress and Performance – Facilities.

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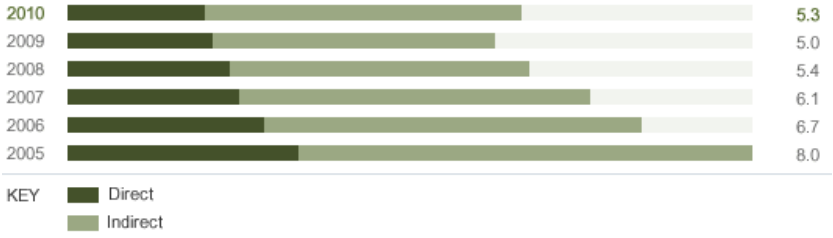
C. Worldwide Facility CO_2 Emissions

Chart | Table

Million metric tons



Million metric tons

	2005	2006	2007	2008	2009	2010
Direct	2.7	2.3	2.0	1.9	1.7	1.6
Indirect	5.3	4.4	4.1	3.5	3.3	3.7
Total	**8.0**	**6.7**	**6.1**	**5.4**	**5.0**	**5.3**

Third-party verified (North America and EU)[1]

Reported to regulatory authorities (EU). Voluntarily reported to emissions registries or other authorities in Australia, Brazil, Canada, China, Mexico, the Philippines and the U.S.

Notes to Data | Analysis | Related Links

1. Sixty-one percent of Ford's global facility GHG emissions are third-party verified. All of Ford's North American GHG emissions data since 1998 are externally verified by The Financial Industry Regulatory Authority, the auditors of the NASDAQ stock exchange, as part of membership in the Chicago Climate Exchange. In addition, all of our European facilities impacted by the mandatory EU Trading Scheme are third-party verified.

Facility CO_2 emissions increased by approximately 6 percent due to production increases.

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D. Worldwide Facility CO_2 Emissions Per Vehicle

Chart | Table

Metric tons per vehicle

Metric tons per vehicle

	2005	2006	2007	2008	2009	2010
Direct	0.43	0.38	0.33	0.38	0.35	0.31
Indirect	0.85	0.72	0.68	0.71	0.72	0.70
Total	**1.28**	**1.11**	**1.01**	**1.09**	**1.07**	**1.01**

Data managed through the Global Emissions Manager database

Analysis | Related Links

CO_2 emissions per vehicle declined for the third year, reflecting our focus on improving the energy efficiency of our operations. During 2010, we adopted a new goal to reduce global facility CO_2 emissions per vehicle by 30 percent by 2025.

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E. Energy Efficiency Index

Chart | Table

Percent

Percent

2006	2007	2008	2009	2010
NA	4.3	11.7	18.3	14.4

Notes to Data | Analysis | Related Links

The North American Energy Efficiency Index is a normalized indicator based on a calculation that adjusts for typical variances in weather and vehicle production. The Index was set at 100 for the baseline year 2006 to simplify tracking against our annual 3 percent energy-efficiency target. A year 2000 baseline was used through 2006; the baseline will be reset to year 2010 starting in 2011. The year 2010 improvement indexed against the year 2006 baseline was 14.4, indicating a 14.4 percent improvement in energy efficiency since 2006.

The 2010 North American Energy Efficiency Index value of 14.4% represents a decline in efficiency compared to the 18.3% in 2009. We attribute the decline to an over-adjustment in 2009 related to the dramatic drop in production. We know that our energy adjustment model tends to over-adjust for large drops in production that are managed using extended non-production periods. This is one of the key reasons to index against a typical baseline year rather than doing a year-over-year comparison. The long-term trend of our Energy Efficiency Index is very favorable.

In This Report:

Water Use

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A. Global Water Use Per Vehicle Produced

Chart | Table

Cubic meters per vehicle produced

Cubic meters per vehicle produced

2005	2006	2007	2008	2009	2010
7.7	7.6	6.2	5.6	5.2	4.8

Data managed through the Global Emissions Manager database

Analysis | Related Links

The reduction in water use from 2009 to 2010 reflects a long-term trend of reducing water use per vehicle each year. Ford facilities have achieved reductions in water consumption through a broad range of actions.

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B. Global Water Use By Source

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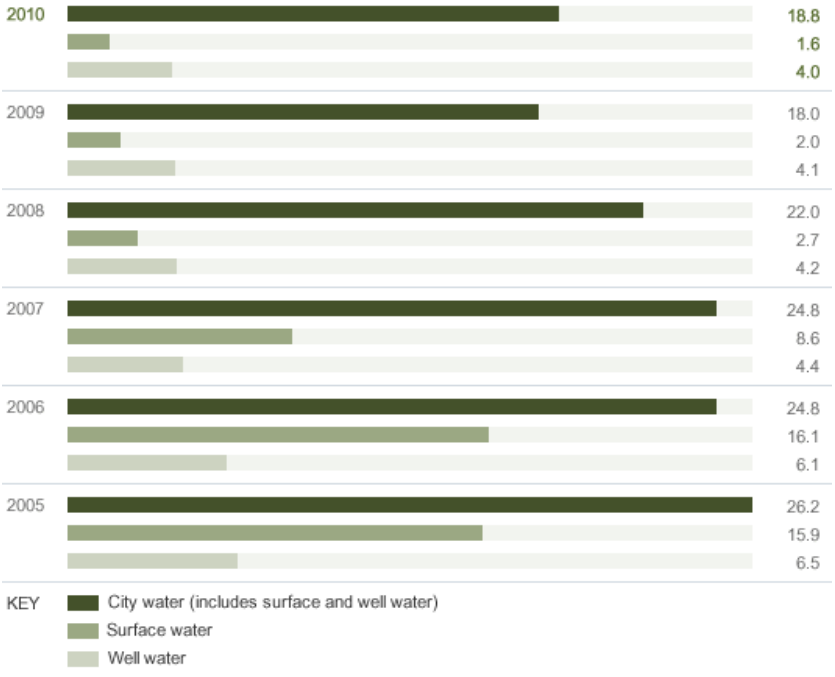
Million cubic meters



Million cubic meters

	2005	2006	2007	2008	2009	2010
City water (includes surface and well water)	26.2	24.8	24.8	22.0	18.0	18.8
Surface water	15.9	16.1	8.6	2.7	2.0	1.6
Well water	5.6	6.1	4.4	4.2	4.1	4.0

Data managed through the Global Emissions Manager database

Analysis | Related Links

While our global water use increased from 2009 to 2010, our water use per vehicle decreased from 5.2 cubic meters in 2009 to 4.8 cubic meters in 2010, which reflects the fact that we are using water more efficiently during production.

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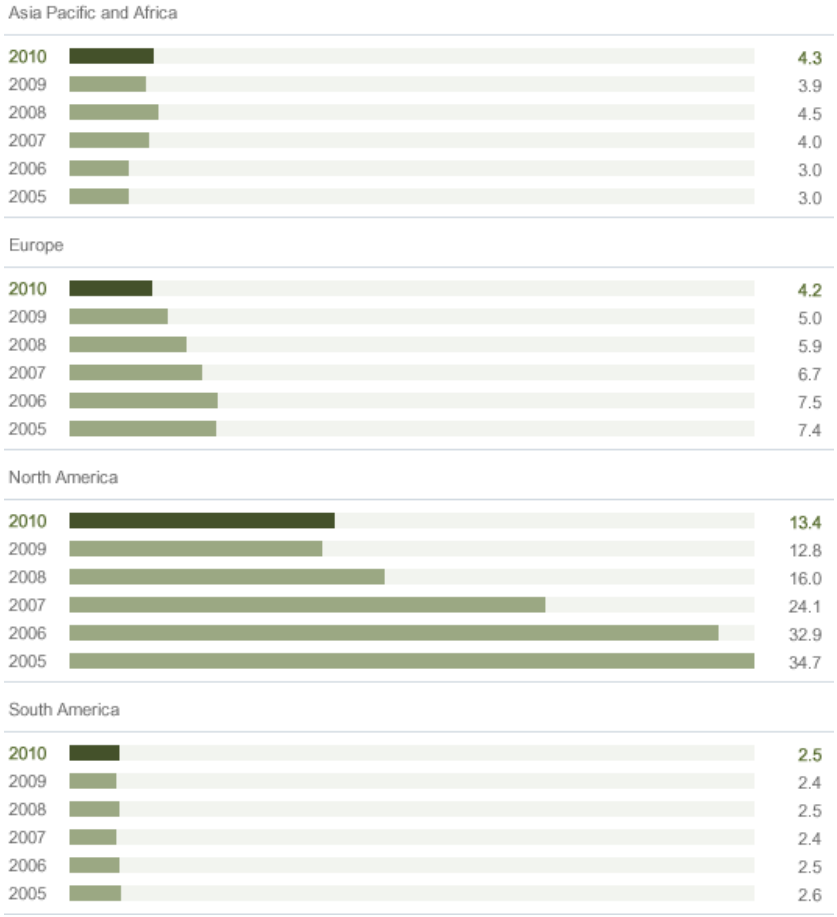
C. Regional Water Use

Chart | Table

Million cubic meters



Million cubic meters

	2005	2006	2007	2008	2009	2010
Asia Pacific and Africa	3.0	3.0	4.0	4.5	3.9	4.3
Europe	7.4	7.5	6.7	5.9	5.0	4.2
North America	34.7	32.9	24.1	16.0	12.8	13.4
South America	2.6	2.5	2.4	2.5	2.4	2.5

Data managed through the Global Emissions Manager database

Analysis | Related Links

In 2010, water use increased in all regions except Europe due to increases in production. In Asia Pacific and Africa, water use has been increasing over the past few years, due largely to the increase in vehicles produced in this region. In South America, water use has remained largely constant since 2003.

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Emissions (VOC and Other)

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A. North America Volatile Organic Compounds Released by Assembly Facilities

Chart | Table

2011 target = 23 g/sq meter or less

Grams per square meter of surface coated

Grams per square meter of surface coated

2005	2006	2007	2008	2009	2010
24	24	24	24	21	22

Data managed through the Global Emissions Manager database

Analysis | Related Links

VOC emissions in North America increased by 5 percent between 2009 and 2010; however we are still exceeding our goal of maintaining emissions at 24 grams per square meter of surface coated. We achieved this goal through, among other things, the use of mold-in-color plastics (which preclude the need for painting) and our fumes-to-fuel technology, which captures VOC emissions from our paint shops and uses them as an energy source.

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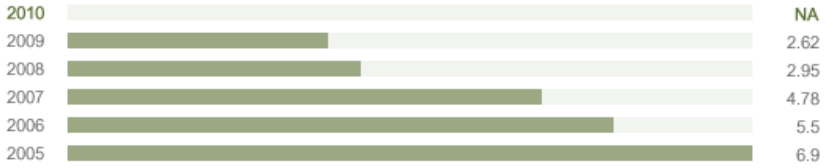
B. Ford U.S. TRI Releases

Chart | Table

Million pounds



Million pounds

2005	2006	2007	2008	2009	2010
6.9	5.5	4.78	2.95	2.62	NA

Reported to regulatory authorities (EPA)

Notes to Data | Analysis | Related Links

Releases reported under the U.S. Toxics Release Inventory are all in accordance with the law, and many of them are subject to permits. The data shown are the most recent reported to authorities.

Our U.S. Toxic Release Inventory releases decreased from 2008 to 2009, continuing a long-term trend of reducing these releases. These reductions were achieved through material and process changes.

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C. Ford U.S. TRI Releases Per Vehicle

Chart | Table

Pounds per vehicle

Pounds per vehicle

2005	2006	2007	2008	2009	2010
2.5	2.7	2.37	2.06	2.0	NA

Notes to Data | Analysis | Related Links

Releases reported under the U.S. Toxics Release Inventory are all in accordance with the law, and many of them are subject to permits. The data shown are the most recent reported to authorities.

Our U.S. Toxic Release Inventory releases per vehicle decreased from 2008 to 2009, the fourth year in a row we have reduced these emissions. These reductions were achieved through material and process changes.

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D. Ford Canada NPRI Releases

Chart | Table

Metric tonnes

Metric tonnes

2005	2006	2007	2008	2009	2010
693	600	5,503	726	594	NA

Reported to regulatory authorities (Environment Canada)

Notes to Data | Analysis | Related Links

Releases reported under the Canadian National Pollutant Release Inventory are all in accordance with the law, and many of them are subject to permits. The data shown are the most recent reported to authorities.

Our Canada National Pollutant Release Inventory releases decreased substantially from 2008 to 2009. With this decrease, we continue a multi-year trend of reducing NPRI releases each year. These reductions were achieved through material and process improvements.

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E. Ford Canada NPRI Releases Per Vehicle

Chart | Table

Metric tonnes per vehicle

Metric tonnes per vehicle

2005	2006	2007	2008	2009	2010
0.0031	0.0029	0.0162	0.0024	0.0018	NA

Notes to Data | Analysis | Related Links

Releases reported under the Canadian National Pollutant Release Inventory are all in accordance with the law, and many of them are subject to permits. The data shown are the most recent reported to authorities.

Our Canada National Pollutant Release Inventory releases per vehicle continued to decrease from 2008 to 2009. These reductions were achieved through material and process changes.

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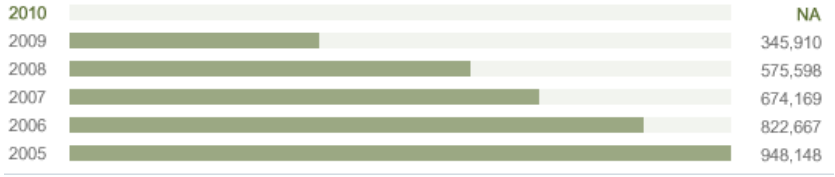
F. Australia National Pollutant Inventory Releases (Total Air Emissions)

Chart | Table

Kilogams per year



Kilograms per year

2005	2006	2007	2008	2009	2010
948,148	822,667	674,169	575,598	345,910	NA

Reported to regulatory authorities (NPI)

Notes to Data | Analysis | Related Links

Releases reported under the Australian National Pollutant Inventory are all in accordance with the law, and many of them are subject to permits. The data shown are the most recent reported to authorities.

Our ANPI releases decreased by 40 percent from 2008 to 2009, the fifth year in a row we have reduced these releases. These reductions were achieved through material and process changes.

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Waste

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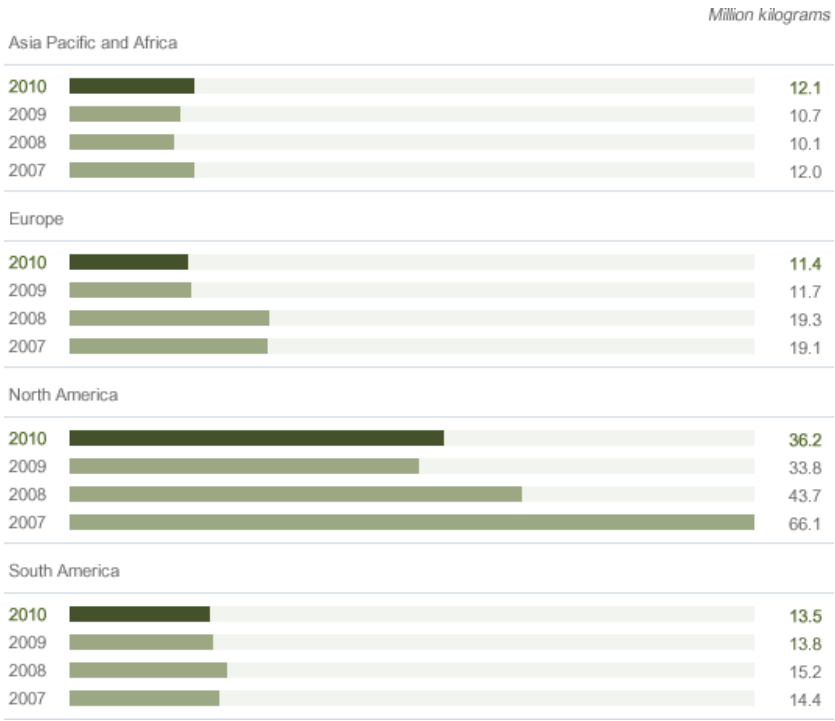
A. Regional Waste to Landfill

Chart | Table



Million kilograms

	2007	2008	2009	2010
Asia Pacific and Africa	12.0	10.1	10.7	12.1
Europe	19.1	19.3	11.7	11.4
North America	66.1	43.7	33.8	36.2
South America	14.4	15.2	13.8	13.5

Data managed through the Global Emissions Manager database

Notes to Data | Analysis | Related Links

AutoAlliance International, our joint-venture plant in Flat Rock, Michigan that produces the Ford Mustang, is included beginning in 2009.

In 2010, Ford facilities globally sent approximately 73,000 metric tons of waste to landfill, a slight increase of 4.6 percent from 2009. This increase is the result of higher production from 2009 to 2010.

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B. Waste to Landfill Per Vehicle

Chart | Table

Kilograms

Kilograms

2007	2008	2009	2010
18.63	17	16.1	14.1

Data managed through the Global Emissions Manager database

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AutoAlliance International, our joint-venture plant in Flat Rock, Michigan which produces the Ford Mustang, is included beginning in 2009.

In 2010, we reduced waste to landfill on a per-vehicle basis by about 13 percent, which reflects our focus on reducing waste produced per unit of production.

We decreased waste to landfill primarily through aggressive efforts to generate less waste and recycle more, and through the use of waste-to-energy incineration facilities.

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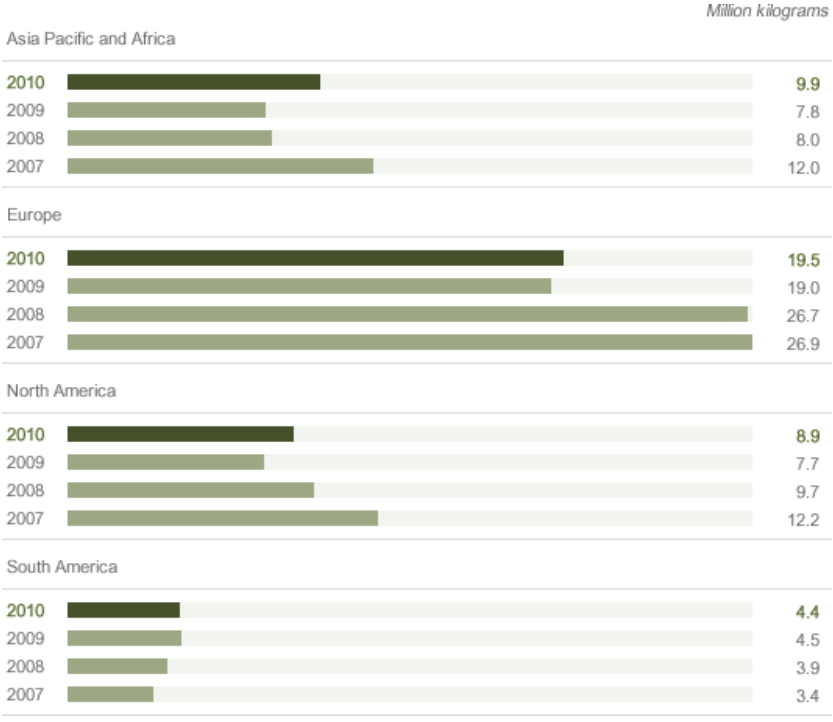
C. Regional Hazardous Waste Generation

Chart | Table

Million kilograms



Million kilograms

2007	2008	2009	2010

Asia Pacific and Africa	12.0	8.0	7.8	9.9
Europe	26.9	26.7	19.0	19.5
North America	12.2	9.7	7.7	8.9
South America	3.4	3.9	4.5	4.4

Data managed through the Global Emissions Manager database

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In 2010, Ford facilities globally generated approximately 43,000 metric tons of hazardous waste, an increase of 9 percent from 2009; though hazardous waste generated per vehicle produced continues to decline. The increase is the result of higher production from 2009 to 2010.

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D. Hazardous Waste Generation Per Vehicle

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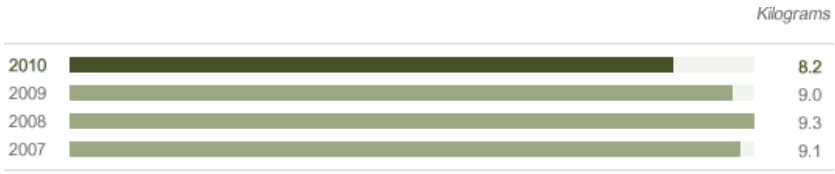

Kilograms

2007	2008	2009	2010
9.1	9.3	9.0	8.2

Data managed through the Global Emissions Manager database

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In 2010, we continued a three-year improvement trend by reducing hazardous waste on a per-vehicle basis by 9 percent.

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Case Studies

IN THIS SECTION

Case Study: Michigan Assembly Plant

We invested $550 million to convert the Michigan Assembly Plant (MAP) facility from a large SUV factory into a modern and flexible plant that focuses on some of the smallest – and most fuel-efficient – products in our lineup.

READ MORE

Case Study: Green PC Purchasing Initiative

In 2010, the IT "PC renewal" planning team along with IT purchasing set out to meet the following challenge: Could a sustainability-focused PC purchase decision reduce Ford's environmental footprint ***and*** costs, while still meeting all other computing requirements?

READ MORE

ENVIRONMENT

- Progress and Goals
- Environmental Management
- Design for Lifecycle Sustainability
- Products
- Operations
- Data
- Case Studies
  - Case Study: Michigan Assembly Plant: A Symbol of Ford's Transformation
  - Case Study: Green PC Purchasing Initiative

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Case Study: Michigan Assembly Plant: A Symbol of Ford's Transformation

If ever there were a symbol of our Company's transformation, it's our former Michigan Truck Plant in the city of Wayne. Built in 1957 – initially to produce station wagons – it spent nearly half a century producing trucks and some of the largest vehicles in our fleet: the Ford Bronco, the F-series trucks, the Ford Explorer and the Lincoln Navigator.

Today, the plant is at the other end of the automotive spectrum. We invested $550 million to convert the facility from a large SUV factory into a modern and flexible plant that focuses on some of the smallest – and most fuel-efficient – products in our lineup.

These days, the newly named Michigan Assembly Plant (MAP) produces the global Ford Focus and the battery-electric Focus. The transformation of the plant embodies the larger transformation of our entire operations. It illustrates our focus on meeting increasing customer demand for fuel-efficient and advanced green vehicles; it reflects the best of our green and flexible manufacturing technologies; and it highlights how we as a company can contribute to economic growth by advancing sustainable products and manufacturing technologies.

MAP Production Lineup:

- Ford Focus (2010)
- Ford Focus Electric (2011)
- Ford C-MAX
- Ford C-MAX Hybrid
- Ford C-MAX Energi

The new Michigan Assembly Plant will initially make the all-new, fuel-efficient Ford Focus and the Focus Electric, Ford's first commercially available all-electric passenger car. The new Focus will achieve 40 mpg through a range of advanced engine, powertrain and other technologies – an 18 percent improvement over the previous model. The plant will also build three additional vehicles, including the Ford C-MAX, C-MAX Hybrid and C-MAX Energi, our first commercially available plug-in hybrid.

Advancing Green Manufacturing

The new plant demonstrates Ford's commitment to green production technologies. MAP boasts a 500 kW solar power generation system – one of the largest systems in the state – allowing the plant to operate on a blend of renewable and conventional electricity. Renewable energy collected by the solar panels feeds into the plant's energy-efficient microgrid, helping power the plant. As part of this solar power system, we are piloting a battery storage system to store solar energy during non-sunlight hours. The system uses a 750 kW energy storage facility that can store 2 million watt-hours of energy – enough to power 100 average Michigan homes for a year. The energy storage system will be used to power electric trucks that transport material around the site. By using this system, we are replacing diesel engine trucks with electric trucks powered by the sun. The stored solar energy will also provide power during periods of insufficient or inconsistent sunlight.

The solar panels and battery storage are being installed and managed through a joint effort between Ford, DTE Energy, Extreme Power, the city of Wayne, Michigan, and the state of Michigan. The solar energy installation is part of DTE Energy's pilot SolarCurrents program that calls for photovoltaic systems to be installed on customer rooftops or property over the next five years to generate 15 MW of electricity throughout southeast Michigan. The Michigan Assembly project is funded by a $3 million investment from DTE Energy's SolarCurrents program, a $2 million grant from the Michigan Public Service Commission in support of the state's smart-grid initiative, and approximately $800,000 worth of in-kind contributions from Ford.

In addition to the environmental benefits, this system is also projected to reduce the plant's energy costs by $160,000 per year. The electric trucks will save an estimated 86,000 gallons of diesel each year. We are using the experience gained at MAP to test the viability of alternative energy to supply power for other manufacturing facilities around the world.

The plant is also using renewable energy from landfill gas; the boilers at MAP are fed by methane gas collected from a nearby landfill.

Related Links

This Report:

- Electrification: A Closer Look
- Improving New Product Development Process
- Investing in Operations
- Regional Performance Highlights

Vehicle Websites:

- Ford Focus (2010)
- Ford Focus Electric (2011)
- Ford C-MAX
- Ford C-MAX Hybrid
- Ford C-MAX Energi

MAP also uses Ford's "three-wet" paint technology, which significantly reduces energy use and volatile organic compound (VOC) and other emissions, while saving money and improving paint quality. The three-wet process allows us to apply primer, base coat and clear coat, and then bake the vehicle only once; traditional painting processes require baking between each of these steps. As a result, we save electricity from the blowers that run the booths and the ovens, plus natural gas from heating the air and the ovens. The MAP three-wet system is expected to save about $3 million in production in natural gas and electricity, produce 6,000 metric tons fewer carbon dioxide (CO_2) emissions per year compared to waterborne systems and 8,000 metric tons fewer CO_2 emissions per year compared to conventional high-solvent-borne paint systems. It is also expected to reduce VOC emissions by 5 percent.

The plant is also improving environmental performance by reducing waste. For example, the cardboard packaging for all the parts that come from Europe – about 50 percent of the total parts for the Focus – is carefully collected, sorted and recycled, as is the bubble wrap, the Styrofoam and water bottles used by employees. The plant also recycled construction waste generated during the redesign. For example, the temporary wooden partitions that were put up as the plant was revamped and remodeled were donated to the local Habitat for Humanity.

A Leader in Flexible Manufacturing

In addition to being a greener facility, MAP is now one of Ford's most flexible manufacturing facilities. Flexible manufacturing allows us to switch production between vehicles on a single line, make vehicles more efficiently and adjust to changing customer demands almost instantaneously. More than 80 percent of the tooling in the plant is programmable to allow changing between vehicle lines and body styles without downtime. The Focus product development team also developed the vehicle with flexibility in mind by using designs that allow for the use of programmable tooling. MAP also uses virtual manufacturing and common build sequences in final assembly to improve quality, efficiency and flexibility.

As a result of these investments in flexible manufacturing, MAP will be the first facility in the world capable of building a full array of vehicles – gas-powered, electric, hybrid and plug-in hybrid – all on the same production line.

Supporting Economic Growth for All Our Stakeholders

Ford's investment in the Michigan Assembly Plant, the advanced green products we will build there and the advanced energy systems used to power the plant all help to support economic growth for our stakeholders in Michigan and around the world. For example, as part of our decision to produce three electrified vehicles at MAP, we also announced plans to bring our battery development and production in house; this decision will add 1,000 new jobs in Michigan for the production of electrified vehicles and battery packs, and contribute to moving our nation's economy forward into green and sustainable transportation and energy technologies. Furthermore, the new Focus will generate more than 5,500 new supplier jobs worldwide. Our investments in the MAP and the new Ford Focus are part of a much larger investment in upgrading existing plants and building new plants to support economic growth across our global operations. For more information on these investments please see Investing in Operations and Regional Performance Highlights.

Case Study: Green PC Purchasing Initiative

Ford Motor Company has more than 100,000 personal computers (PCs) in use every day across our global operations. PCs are typically replaced on a rolling basis, to keep pace with technology advancements.

In 2010, the IT "PC renewal" planning team was in the initial stage of creating a Request for Quote (RFQ) for the next wave of PC purchases, and was interested in incorporating sustainability criteria into the RFQ process. At the same time, another group of IT employees – who, in addition to their regular roles, devote one to two hours a week to sustainability-related efforts – were looking for a project that would have a long-term, tangible impact on sustainability within IT. The two teams, along with additional employees in IT Purchasing, were brought together by individuals in the IT Supplier Relationship Management department.

The challenge they set out to meet was: Could a sustainability-focused PC purchase decision reduce Ford's environmental footprint ***and*** costs, while still meeting all other computing requirements?

Greening Ford's PC Requirements

In the past, Ford's RFQs for PCs have focused on functionality, service, quality and price. The team's main task was thus to research and understand what makes a PC "green" and then translate their findings into a set of specific, quantifiable requirements and questions for RFQ responders. The team would then have a consistent way to evaluate and compare suppliers' responses. "'Green' can mean a lot of different things," explained Eric Wingfield, a member of the team, "so we needed to ensure that we looked for broadly accepted industry standards upon which to build a credible set of questions that could allow the team to fairly compare suppliers' green offerings."

The team began by understanding Ford's current expectations of suppliers relating to sustainability and then benchmarking other organizations' methods of incorporating environmental criteria into the PC purchasing process. They looked at the approaches of groups as varied as non-automotive OEMs, health care organizations, standards bodies and government agencies around the globe. The U.S. Environmental Protection Agency (EPA), which runs the Energy Star Program, turned out to be an excellent resource for data on various standards globally.

Via the EPA the team found the Energy Performance and Environmental Assessment Tool, or EPEAT – a set of global standards and an accompanying certification process that provides a comprehensive list of sustainability criteria as well as levels of certification that are easily understood by both consumers and suppliers. EPEAT was developed using an EPA grant and is managed by the nonprofit Green Electronics Council. According to the Council, in their report ***Environmental Benefits of 2009 EPEAT Purchasing***, "Combined unit sales of EPEAT-registered notebooks and desktops (including integrated systems) constituted close to 17% of sales of notebooks and desktops worldwide, and 42% of combined product sales in the U.S."

EPEAT became the foundation upon which Ford built its own requirements. It also provided a credible certification system for assessing PC suppliers' compliance with sustainability criteria. Certified EPEAT manufacturers are independently verified by the Green Electronics Council to ensure they are actually meeting the standard. "We liked EPEAT standards because they are comprehensive," said Rob Thies, a member of the Ford team. "The standard requires environmental responsibility throughout the supply chain, including designs that manage the end-of-life concerns, reuse or recycling, where there is a great impact on the environment. We verified that the standards were recognized and used by both government and corporations, which is more cost effective for suppliers as they don't have to coordinate multiple customer requirements."

Nikola Ristivojevich, another member of the team, said: "Another benefit was that EPEAT requirements for PCs were completely aligned with Ford's own environmental standards for our vehicles and operations. Ford is working on sustainable materials, end-of-life issues, energy use reductions, and reducing packaging and waste, so we know firsthand how important these things are and how much effort it takes to accomplish these goals." (For information on other Ford efforts, please see the Environment and Climate Change sections of this report.)

EPEAT was also desirable because it is an international standard recognized in 49 countries. And according to the rules, a manufacturer cannot sell the certified model in one country and then sell an uncertified version of the same model in countries with lower regulatory standards. For the team, this provided assurance that the same level of compliance would be attained no matter where the product was delivered globally.

Putting Green PC Renewal into Action

Related Links

This Report:

- Setting Expectations for Our Suppliers

External Websites:

- EPEAT

In the second quarter of 2010, the RFQs were sent to potential global PC suppliers. The providers were asked to specify the level of EPEAT certification their products had attained, along with other sustainability, technical and commercial questions important to Ford. The suppliers' responses were encouraging, showing that nearly all of the PCs in the suppliers' quoted offerings would meet the EPEAT Gold standard. Any one of the potential suppliers could therefore meet the sustainability requirement of EPEAT Gold identified by the team and ensure that Ford PCs provide energy savings. The team then looked to the remaining sustainability, technical and commercial questions to determine a choice.

Due to the high performance of all of the potential suppliers, sustainability-related responses were not a differentiator in decision-making. The responses did prove to be a valuable benchmark of potential suppliers' capabilities and products, and provided important data for comparing energy savings between suppliers, and new vs. prior technology offerings. In addition, the Company was able to send a message to potential suppliers that sustainability is of importance to Ford.

The next step was to create contract language that would require continued compliance with the EPEAT standard. The team worked closely with IT Contracts, the Office of General Counsel and Purchasing to develop contract language that requires the chosen PC provider to show how they will continue to meet EPEAT standards and all of Ford's other requirements throughout the contract. The addition of EPEAT standards to already-robust contract terms that address human rights and working conditions, as well as environmental responsibility, created requirements appropriate to the IT buy. (For information on other Ford purchasing efforts, see the Supply Chain Sustainability section.)

Assessing the Benefits of Green PCs

The purchase of these PCs has resulted in a wide range of concrete benefits. For example, the PCs use significantly less energy than the previous models and will be responsible for fewer greenhouse gas emissions during their use at Ford. They also will be safer for Ford employees to operate, because they are low in volatile organic compounds (VOCs) and thus produce less "off-gassing" during use. The more eco-friendly composition of the PCs and a responsible end-of-life disposal process will reduce the likelihood that materials of concern will get into the environment when the PCs have completed their useful lives at Ford. For example, the EPEAT standard ensures that the computers are lead-free, an important end-of-life environmental consideration.

The team is now turning its attention to an opportunity to work with Ford's facilities management division – Ford Land – to assess the actual energy savings associated with switching to these PCs. Other large organizations using EPEAT-certified computers boast energy savings of nearly $2 million per year. Ford expects our energy-related cost savings to be somewhat less, because we have already implemented some very successful PC energy-management programs.

The team believes that adopting a sustainability mindset across the Company is important and that every employee plays an important role. "We've seen firsthand how our involvement in sustainability not only helped us to make the right business decision, but also helped Ford to affirmatively respond to fleet customer inquiries regarding how we incorporate sustainability in our purchasing practices," said Laurie DeJack of IT Supplier Relationship Management.

Teamwork Illustrates the ONE Ford Approach

The green PC renewal process has clearly been a team effort. It required commitment and support from a wide range of departments, including the IT Contracts and Supplier Relationship Management group, IT Purchasing, Ford Land's facilities energy management division, and Ford's Sustainability and Vehicle Environmental Matters Office.

"No one group within Ford could have single-handedly made this effort a success," said team member Carol Spisich. "This project brought together people who don't necessarily work together on a regular basis to do something innovative and exciting. That is the spirit of ONE Ford in action."

This is not the first time Ford's IT departments have worked together internally and with other departments to advance the Company's sustainability initiatives. Ford IT employees and groups have also worked on energy-reduction actions such as: implementing a remote power-management and software-upgrading program, redesigning and consolidating data centers, and introducing technologies to enable the "digital worker." (For more information on those projects, please see the Climate Change section.)

"The green PC renewal project is just one great example of how we are working together across departments to improve the overall sustainability of the Company," said Paul Friedrich, who oversees the PC renewal supplier management process for IT. "I know this won't be the last time we all come together to make a stronger business and a better world. That is what ONE Ford is all about."

Society

2010 HIGHLIGHTS...

- Global lost-time case rate improved 11 percent from 2009 to 2010
- Continuing to win recognition for our diversity efforts
- Gave $29 million to hundreds of charitable organizations in 2010
- Provided 112,000-plus hours of service work in 2010

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Our operations affect a broad range of stakeholders. We believe that maintaining strong and open relationships with our employees, customers, suppliers, dealers, investors and society at large plays an important role in our ability to meet our goals.

Positive relationships with employees and business partners help us to improve efficiencies, cost and quality, and to develop and deliver new innovations. Effective two-way communication with our customers, dealers and other stakeholders helps us to understand and deliver the products that customers want. Strong relationships with our suppliers enable us to work together to implement the environmental and human rights initiatives that are critical to a sustainable business.

Assessing Materiality

Our recently updated materiality analysis confirms that our relationships with stakeholders remain an important issue for both the Company and our stakeholders. Specifically, the analysis identified the issues of employee relationships, supplier relationships, dealer relationships, and diversity and inclusion as highly or moderately important. Supplier relationships, in fact, increased in importance from our last analysis and are now considered among Ford's top material issues.

In addition, workplace health and safety continued to remain an issue of high potential impact on Ford and of moderate concern to stakeholders. We also found the issues of community engagement, impacts and contributions to be of high concern to Ford and of moderate concern to stakeholders – a reversal from our last materiality analysis, which found these issues to be of higher concern to stakeholders than to our Company itself. All of these types of issues are addressed in this section.

The materiality analysis showed customers to be most concerned with issues related to the competitiveness of our products, including fuel economy, quality, safety, emerging markets products and strategies, and tailpipe emissions. They were also concerned about clean vehicle and fuel technologies, as well as issues of community engagement. These issues are addressed in the Climate Change, Environment and Economy sections of this report.

Related Links

This Report:

- Materiality Analysis

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Progress

Over the last year, we made progress in a number of areas related to our key stakeholders. For example, we:

- Announced plans to add 7,000 new hourly and salaried jobs in the United States between 2011 and 2012
- Paid profit sharing to eligible UAW members and awarded bonuses to U.S. employees
- Continued our trend of steady and marked improvement in our global lost-time case rate (a major safety indicator); it dropped 11 percent from 2009 to 2010
- Continued to win recognition for our diversity efforts
- Supported hundreds of organizations with charitable grants totaling $29 million
- Provided more than 112,000 hours of employee and retiree community service work – the equivalent of $2.25 million in in-kind corporate contributions

To learn about our commitments in some of these areas, see our Goals and Commitments table.

Who Are Our Stakeholders?

We have sustained, interdependent relationships with several distinct categories of stakeholders: employees, customers, dealers, suppliers, investors and communities. Also important is our relationship to "society," which includes government agencies, nongovernmental organizations (NGOs) and academia. We identified these categories of stakeholders through internal analysis and discussion during the early phases of developing our sustainability programs.

Employees

At year-end 2010, we employed approximately 164,000[1] individuals at 73 plants, 41 distribution centers/warehouses, 57 engineering research/development facilities and 106 sales offices worldwide. Substantially all of the hourly employees in our Automotive operations in the U.S. are represented by unions and covered by collective bargaining agreements. Most hourly employees and many nonmanagement salaried employees of our subsidiaries outside the U.S. are also represented by unions. These unions are key partners with Ford in providing a safe, productive and respectful workplace.

Ford faces workplace health and safety challenges similar to those of many multinational manufacturing companies. These challenges include, for example, establishing and reinforcing high, common expectations for the safety of our employees worldwide. Most of our manufacturing facilities have joint union/management safety committees that guide the development and implementation of safety programs in their operations.

1. In 2009, we had 177,000 employees. The year-over-year decrease primarily reflects completion of the sale of Volvo, as well as Ford Credit global personnel-reduction programs, offset partially by increases in employment in our North America and Asia Pacific and Africa regions largely to support increased production. In addition, the 2009 figure reflects retrospective application of the accounting standard for consolidation of variable interest entities. (Our previous Sustainability Report had noted employment for 2009 at 176,000.)

164,000

Employees

Customers

Ford's customers make us who we are. Ford Motor Company serves more than 5.5 million customers worldwide. Our major regional markets include North America, South America, Western Europe, Eastern Europe, Russia, Asia and Australia.

In these regions, we serve three primary types of customers: individual retail consumers, small business customers and large commercial fleet customers. We will continue to expand our products and services for these existing customers while working simultaneously to gain new customers in emerging markets. In North America, we are focusing on increasing our offerings of smaller and more fuel-efficient vehicles. In all of our markets, our customers' mobility needs and desires are changing faster than ever.

5.5 million

Customers

Dealers

Our dealers are the face of Ford to our customers and communities. They are key employers and contributors to local economies. Ford and Lincoln dealers in the United States alone employed 156,551 individuals at the end of 2010, with an annual payroll of approximately $5.7 billion. Worldwide, we had 12,000 Ford and Lincoln dealerships at the end of 2010.

12,000

Dealers

Suppliers

Suppliers are an integral part of our business, and our success is interdependent with theirs. We rely on more than 1,400 production suppliers to provide many of the parts that are assembled into Ford vehicles. Another 9,000 supplier companies provide a wide range of nonproduction goods and services, from industrial materials to computers to advertising.

Our supply base is increasingly global. We are expanding production in several regions to

1,400

Production Suppliers

9,000

serve the sales growth that is expected to occur in emerging markets. We are also expanding our sourcing in these lower-cost emerging markets, as a way to serve both local markets and the global supply chain. These changes, and our efforts to ensure good working conditions in our supply chain, are discussed in detail in the Supply Chain section of this report.

Nonproduction Suppliers

Investors

Our success as a company directly affects our approximately 162,000 investors, and we have been focused on improving Ford's financial health. More information on our investors is available in the Economy section of this report. For detailed investor relations information, please visit our Investor Relations website.

We continue to maintain open communication with the investment community. We regularly host conference calls and participate in key automotive conferences during the year. In addition, our Investor Relations website is a good source of information for investors. It contains various Company reports, a schedule of events and investment information.

162,254

Investors

Communities

Our Company impacts the communities in which we operate in numerous ways, from the employment we provide and the taxes we pay, to the environmental and safety performance of our operations, to the ways in which we support and participate in civic life. Responsibly managing these impacts is not just about being a good neighbor; it is fundamental to the success of our business.

The communities in which we operate are composed of a diverse range of individuals and groups. They include our customers, our employees, our business partners and their employees, government regulators, members of civil society and community organizations, and those individuals who live and work around our facilities, among others. Developing and maintaining positive relationships with these varied groups is an important factor in our reputation and operational efficiency.

$29 million

in Contributions

Engaging with These Stakeholders

Stakeholder engagement takes place in countless formal and informal ways every day across our Company, from meetings with local community groups to market research with customers to gatherings of Ford dealers and suppliers.

At the corporate level, we use a variety of mechanisms to engage with stakeholders on sustainability issues to help us better understand the broader societal issues that our Company addresses. Some of these mechanisms are informal and ad hoc. In fact, simply picking up the telephone to discuss an issue with any of the numerous sustainability-related organizations or individuals with whom Ford has a relationship is a part of our standard protocol.

Indeed, the very process of engaging with stakeholders on our Sustainability Report has led to expanded and enhanced information in the report in a number of areas, including our positions on key public policy and other issues.

Some of our more formal engagement mechanisms include the following:

- **The creation of forums to gather stakeholder input on our activities, challenges and performance.** We work with stakeholder committees to help shape and provide feedback on our Sustainability Reports. For example, working with a Ceres Stakeholder Committee is one of the important ways we get input from stakeholders – including environmental NGOs, engaged shareholder groups and investors – to inform and shape our reporting approach and our materiality analysis. We have also organized meetings with individuals and groups of stakeholders to solicit input on the key sustainability challenges and opportunities facing Ford. These and other engagements have provided valuable feedback on our sustainability strategy.
- **Outreach on emerging and ongoing issues of particular importance to Ford or our stakeholders.** We believe we have taken a thoughtful approach to our stakeholders as we work through challenging issues. For example, stakeholder input has been critical to the development and testing of our approach to human rights over the past several years. Several organizations, notably the Interfaith Center on Corporate Responsibility (ICCR), have been key partners with Ford, providing information, input and feedback at every step of the process, especially during conversations around shareholder resolutions. Our engagement with the ICCR and others helped us formulate our public commitment to product carbon-dioxide reductions. We have done outreach to the United Nations Global Compact, particularly as we developed our strategy to be a global leader in human rights, and have worked with stakeholders to address specific issues in the automotive industry supply chain. (See the Human Rights section for more detail.)
- **Engagement with local stakeholders in the communities in which we operate as part of our Code of Basic Working Conditions assessment process.**
- **Consultation with organizations that have implemented campaigns targeting Ford.**
- **Engagement with rating and ranking organizations in the investment community.** This has provided insight into external perspectives on some important issues and our relative performance in addressing them.
- **Offering new product test-drive opportunities to our employees, who, in turn, communicate about our vehicles to their friends and families.**

Stakeholder	Communications Forums
Communities/Society 277 plants, distribution centers/warehouses, and engineering, research/development and sales facilities worldwide* *We have announced plans to close a number of North American facilities as part of our restructuring actions; facilities already closed are not included. The number includes five facilities operated by Automotive Components Holdings, LLC (ACH), which is controlled by us. We have been working to sell or close the majority of the 15 ACH manufacturing plants; to date, we have sold five ACH plans and closed another five. We plan to close a sixth plant in 2011. We are exploring our options for the remaining ACH plants (Milan, Saline, Sandusky and Sheldon Road) and intend to transition these businesses to the supply base as soon as practicable.	• Community Relations Committees • Interactions with governments • Membership in associations • NGO dialogues
Investors	• Investment community forums

162,254 stockholders* *As of February 14, 2011	• Quarterly earnings communications • Annual shareholders' meeting • Annual report • Proxy statement • SEC filings (e.g., 10-K, 10-Q, 8-K)
Customers 5.5 million vehicles	• Consumer Insight process • Customer care programs • Dealer interactions
Suppliers 1,400 production suppliers 9,000 nonproduction suppliers Over $65 billion annual buy	• Top supplier meetings • Aligned Business Framework supplier dialogue sessions • Supplier quality roundtables • Supplier Diversity Development Networking • External supplier organizations, such as the Automotive Industry Action Group and the Original Equipment Suppliers Association
Dealers* Ford: 10,719 Ford-Lincoln (combined) 997 Lincoln 284 Total: 12,000 *Worldwide dealerships, as of December 31, 2010.	• Intranet communications • Brand sales and service representatives • Brand Dealer Councils • Dealer roundtables • President's Circle • Salute to Dealers • Advertising and public service announcements
Employees Approximately 164,000 employees* *As of December 31, 2010. The year-over-year decrease from 2009 primarily reflects completion of the sale of Volvo, as well as Ford Credit global personnel-reduction programs, offset partially by increases in employment in our North America and Asia Pacific and Africa regions largely to support increased production.	• Town hall meetings • Labor-management committees • Pulse survey • Union representation • Intranet surveys and chats • Executive Council on Diversity • Local Diversity Councils • Employee Resource Groups

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Employees

Our employees are our most valuable resource. They are the ones who have helped us weather this most recent difficult period and who are moving us forward on our path to success.

While we have many types of employees and work arrangements, all of our employees together create a skilled and motivated team aligned around our overall ONE Ford objectives. Our ONE Ford plan aligns our efforts toward a common definition of success: having ONE Team, ONE Plan and ONE Goal for an exciting, viable Ford that delivers profitable growth for all. ONE Ford also provides consistent goals and expectations for employees, whether they work in Michigan or China, with a clear focus on the skills and behaviors we must demonstrate to accomplish our goals. All members of our global team are held accountable for incorporating ONE Ford into their daily work.

We have integrated ONE Ford into our people processes to support employee development and drive accountability for moving the Company forward while demonstrating expected behaviors that are fundamental to the success of ONE Ford:

- F: Foster Functional and Technical Excellence
- O: Own Working Together
- R: Role Model Ford Values
- D: Deliver Results

Over the last few years, ONE Ford has required that we enhance our human resource strategies in order to create a great place to work; develop a capable and effective workforce; align our organizational structure with our global business footprint; and provide the “people”-related processes to support our workforce.

Diversity and inclusion in the workplace

Read more about our efforts around diversity and inclusion.

READ MORE

ONE FORD

ONE TEAM • ONE PLAN • ONE GOAL

ONE TEAM

People working together as a lean, global enterprise for automotive leadership, as measured by:

Customer, Employee, Dealer, Investor, Supplier, Union/Council, and Community Satisfaction

ONE PLAN

- Aggressively restructure to operate profitably at the current demand and changing model mix
- Accelerate development of new products our customers want and value
- Finance our plan and improve our balance sheet
- Work together effectively as one team

ONE GOAL

An exciting viable Ford delivering profitable growth for all

Expected Behaviors

Foster Functional and Technical Excellence

- Know and have a passion for our business and our customers
- Demonstrate and build functional and technical excellence
- Ensure process discipline
- Have a continuous improvement philosophy and practice

Own Working Together

- Believe in skilled and motivated people working together
- Include everyone; respect, listen to, help and appreciate others
- Build strong relationships; be a team player; develop ourselves and others
- Communicate clearly, concisely and candidly

Role Model Ford Values

- Show initiative, courage, integrity and good corporate citizenship
- Improve quality, safety and sustainability
- Have a can do, find a way attitude and emotional resilience
- Enjoy the journey and each other; have fun - never at others' expense

Deliver Results

- Deal positively with our business realities; develop compelling and comprehensive plans, while keeping an enterprise view
- Set high expectations and inspire others
- Make sound decisions using facts and data
- Hold ourselves and others responsible and accountable for delivering results and satisfying our customers

Supporting a Great Place to Work

ON THIS PAGE

Related Links

This Report:
- Supplier Diversity Development

Ensuring a great place to work requires an understanding of employee satisfaction and what employees value about being part of Ford Motor Company. A great place to work must include a diverse workplace where employees feel valued and included. A safe workplace and a healthy workforce are also critical elements.

Employee Satisfaction

Each year, we ask our salaried workforce to participate in the Pulse survey to gain insight into employees' overall satisfaction with the Company, their jobs, diversity and other aspects of workplace satisfaction. We encourage our employees to provide candid feedback, and we benchmark results and participation externally. Results of the survey are incorporated into our business planning review processes. Improving Pulse scores is an annual performance objective for many of our senior managers.

In 2010, 75 percent of our salaried employees participated in the survey, which includes a total of 52 items, eight of which make up what we call the Employee Satisfaction Index (ESI). Sixty-eight percent of respondents gave favorable ratings on the ESI in 2010, unchanged from 2009 levels. We continue to be above external benchmarks on this index.

The areas showing the greatest improvement were employee safety and employee adoption of the ONE Ford behaviors. Other areas showing improvement included employee satisfaction with supervision and diversity. Employee satisfaction with actions that are taken to improve quality maintained a high level of favorable employee satisfaction. In addition, employees continued to respond favorably to questions concerning quality work practices.

As part of our efforts to increase satisfaction, we are constantly improving our strategies for fostering open dialogue with employees. We have been enhancing our internal communication efforts to build trust and increase transparency. For example, we hold regular interactive webcasts with all employees, during which employees can submit questions directly to top executives. We also have a web-based forum for submitting and discussing innovative ideas.

In 2010, we created another index to measure what employees value about being part of Ford. The new Global Skilled & Motivated Team Index will provide insight into employee experiences in areas such as leadership quality, working together, employee development and work/life flexibility.

For more information on the Pulse survey, see the Data section of this report.

In 2010, we were pleased to be included among the "World's Top 50 Most Attractive Employers," a global index of employer attractiveness. Universum, an employer branding company, compiled the list based on responses from nearly 130,000 students at top academic institutions.

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Diversity and Inclusion in the Workplace

Ford makes diversity and inclusion a priority of our Company. We believe that building and supporting a culture of respect is a business imperative that enables all of our employees to do their best work. A critical element of ONE Ford is our ability to work together across a global enterprise. Diversity and inclusion play a key role in creating the culture that brings our different perspectives and experiences together. This helps us work as a unified team to most effectively improve our business.

Ford values the skills, strengths and perspectives of our talented and diverse team. Our

customers are located around the world, and we believe our diversity helps us achieve global automotive leadership, enabling the Company to be more innovative and focused on individuals in the workplace and marketplace.

Our employees recognize Ford's efforts in this area. According to our 2010 Pulse survey, 82 percent of our workers globally believe Ford's management is committed to diversity.

For detailed information on our U.S. workforce by minority groups and gender, please view the data charts.

Our definition of diversity includes all those things that make each of us unique individuals. Our backgrounds, opinions, experiences, perspectives and life situations are just some of the distinctions we bring to the global workplace. At Ford, diversity is:

- Respect – for our employees, customers, communities, dealers, suppliers and retirees
- Appreciation – of our differences
- Inclusion – of every person and every perspective
- Integrity – to do the right thing, always

We integrate our diversity strategy into our business using five strategic areas of focus:

- Leading the way – The executive leadership team, led by our CEO, champions diversity and inclusion at Ford. To work together effectively across the global enterprise, the leadership team ensures that diverse perspectives are integrated into business objectives and key human resources processes.
- Supporting our diverse workforce and strengthening our external partnerships – Ford currently supports a number of employee networks, including 11 Employee Resource Groups that help to foster diversity and inclusion. These include groups for employees of African ancestry; Hispanic, Asian-Indian, Chinese and Middle Eastern employees; veteran and active military employees; employees dealing with disabilities; female professionals; working parents; gay, lesbian, bisexual and transgender employees; and employees of multiple religious faiths. In addition to supporting our employees, these Resource Groups organize community volunteer activities and provide us with an opportunity to better understand the consumer needs and wants of individuals of diverse backgrounds. A number of these groups have chapters in our business units throughout the world.
- Fostering a respectful and inclusive environment – Ford's commitment to inclusion is incorporated in ONE Ford expected behaviors and communicated in ongoing forums such as town hall meetings and training. As a part of these efforts, we have held a Diversity & Inclusion Summit each year since 1999 to recognize individuals and teams who have exhibited the inclusive ONE Ford behaviors critical to our success as a company. The participation of our employees from around the world in this Summit continues to grow. In 2010, our CEO and other senior executives honored 32 teams and individuals in a global ceremony, with participation from Brazil, China, Germany, Great Britain, India, Mexico, Turkey and the U.S.
- Supporting work/life flexibility – We encourage employees and managers to discuss both business and personal goals. Work/life flexibility creates a competitive advantage and addresses the needs of our global, multi-generational workforce. Ford Digital Worker is a global information technology program that supports ONE Ford and enhances employees' ability to work remotely. Ford's efforts to provide employees with tools such as WebEx, Instant Messenger and enhanced mobile access capability has increased employee productivity and satisfaction. Flexibility solutions vary depending upon locations, teams and employees. Examples include the following:

    - In the U.S., almost all of the salaried workforce occasionally use "flextime," which allows employees to vary their daily work times. We have approximately 3,000 employees on formal work programs that involve telecommuting, part-time work and compressed work arrangements. Many more employees develop informal arrangements with their supervisors for occasional work from home. Our Flexible Work Network provides "flex mentors" to help advise employees on effective ways to work differently.
    - In Europe, we offer a variety of flexible working patterns. In the UK and Germany, for example, we support part-time working and telecommuting and offer child care facilities for the children of our employees.
    - In Canada, our many programs include "Summer Hours," which gives employees an opportunity to work with their managers to identify a compressed work-week schedule during the summer months.
    - Ford South America established several programs aiming to leverage work/life flexibility, including flexible work locations.

Other employee resources include Employee Assistance Programs, "mothers' rooms" for nursing mothers in some of our global locations, and wellness initiatives.

Ford has longstanding policies clearly stating that harassment in the work environment because of race, religion, color, age, sex, national origin, disability, sexual orientation or veteran status is a violation of the spirit and intent of the Company's nondiscrimination policies, and Ford has a commitment to zero tolerance of this type of behavior. These policies apply to all individuals, including part-time, supplemental and agency employees. Ford understands its responsibility to foster a respectful work environment free of harassment or discrimination at all levels of the organization. We take this responsibility extremely seriously and thoroughly investigate any claim of violation(s).

Our collective bargaining agreements address this issue and allow union-represented employees the right to use the grievance process. Ford's Code of Basic Working Conditions, as well as several global Policies and Directives, directly address the issue of respect and inclusion. These include:

- Local Equal Employment Opportunity Policy Statement
- Policy Letter No. 2: "Relationships with Employees"
- Policy Letter No. 6: "Equal Opportunity and Affirmative Action"
- Directive B-110: "Anti-Harassment/Zero Tolerance"

In the U.S., a number of avenues are available to employees who wish to make and/or document a complaint. These processes are communicated to all employees through the Open Door Policy and through various policies posted online. Some of these avenues are:

- Reporting the incident or concern to a supervisor or any other member of management
- Filing a complaint with the local human resources office
- Contacting the human resources representative at the division office or personnel relations at World Headquarters in Dearborn, Michigan
- Calling the corporate hotline, which is answered at World Headquarters
- Using peer review, which is an internal alternative dispute resolution process

The Company also has longstanding strong relationships with the Equal Employment Opportunity Commission (EEOC) and state civil rights agencies. In 2004, the Company signed a Universal Agreement to Mediate with the EEOC, which enhances our pledge to address claims of discrimination and/or harassment quickly and efficiently. We stand committed to cooperating with those civil rights agencies that provide resources to the people of our diverse communities in an effort to eliminate discrimination or harassment in the workplace.

Furthermore, the Company tracks data internally, which enables us to measure the effects of our policies and practices for prohibiting and preventing discrimination, harassment and any other unwanted or illegal behavior, and to leverage those policies to address issues efficiently and improve the overall morale of our workers. The internal tracking data and results are proprietary to Ford Motor Company.

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Diversity and Inclusion Awards

We have received hundreds of awards in the last few years from publications and organizations that recognize the value we place on our employees and our ability to work inclusively. For example, we have been recognized by DiversityInc as a Top Company for Diversity since that award's inception. Specific diversity awards given in 2010/2011 include the following:

- 100 Leading Women – ***Automotive News*** (Ford had more women recognized than any other automotive company)
- America's Top Organizations for Multicultural Business Opportunities – DiversityBusiness.com
- Best Company for Maternity – Working Families, UK
- Best Diversity Company – ***Diversity/Careers in Engineering and Information Technology***
- Corporate Equality Index, 100% Rating – Human Rights Campaign
- Diversity Elite 60 – ***Hispanic Business***
- Diversity Leader – ***Profiles in Diversity***
- 50 Best Places to Work – Glassdoor.com
- 40 Best Companies for Diversity – ***Black Enterprise***
- Most Admired Employer for Minorities in Research Science – ***U.S. Black Engineer & Information Technology***
- Top 10 Best Companies for Supplier Diversity – ***DiversityInc***
- Top 25 Supplier Diversity Company – ***Hispanic Business***
- Top 30 Employers for Working Families – Working Families, UK
- Top 50 Companies for Diversity – ***DiversityInc***
- Top 50 Companies for Engineers – ***U.S. Black Engineer & Information Technology***
- Top 50 Employers – ***Minority Engineer***
- Top 50 Employers – ***Workforce Diversity for Engineering & IT Professionals***
- Top 100 Employers – ***The Black Collegian***
- Top 100 Employers – Stonewall (a UK-based lesbian, gay and bisexual advocacy group)
- Top Supporter of Historically Black Colleges and Universities – Career Communications Group, Inc., survey
- Top Company for Diversity & Inclusion – ***UPTOWN Professional***

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Working Conditions in Ford Plants

Ford's Code of Basic Working Conditions (CBWC) applies to our own facilities as well as those of our joint venture partners and suppliers. Since 2004, we have conducted 53 formal assessments

of Ford facilities, five of which were joint-venture facilities.

During 2010, we conducted assessments at our Louisville plant in Kentucky; our Valencia plant in Spain; Cuautitlan in Mexico; São Bernardo in Brazil; Pretoria in South Africa; and our joint-venture plant in Jiangling, China. These sites were selected by Ford's Sustainability and Environmental Policy, Global Labor Affairs and Supply Chain Sustainability functions based on the sites' impact on our supply chain, emerging issues, and the views of thought leaders, nongovernmental organization representatives and human rights activists.

The process for assessing Ford facilities includes a questionnaire completed by facility management and a detailed review of documents related to the full range of working conditions issues (e.g., collective bargaining agreements, grievance procedure logs, employee hotline records and health and safety audit reports).

The findings of the questionnaire and document review serve as the basis for interviews with facility management. Where procedures and/or documentation are lacking, or where we feel it would otherwise be valuable, the assessments also include facility visits.

The findings of the assessments are initially shared with human rights organizations with which Ford works and then published on our website. We have sought the opinions of neutral third parties who have visited plants and/or reviewed the assessment process, and they have agreed that the process is robust and has integrity.

The findings of the 2010 assessments were generally consistent with those of previous assessments. That is, they confirmed that Ford's wholly and majority-owned facilities are operating in compliance with our CBWC. Reflecting the expanded scope of the CBWC, the assessments also discuss and document community engagement efforts, effects on indigenous populations and environmental initiatives. However, work with our partners can be impacted by local government legislation; in some cases, governments in developing economies may own some of a joint venture, and we need to be especially certain that CBWC elements and work rules are enforced. We plan to continue to monitor the facilities to detect and address any potential concerns.

We have received considerable and consistent positive feedback from external stakeholders about the policies and systems in place at Ford facilities. While we and our stakeholders have confidence in our systems, we nonetheless believe it is important to continue conducting the assessments given that conditions can change and new issues emerge.

For information on working conditions in our supply chain, see the Supply Chain section.

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Fostering a Capable and Effective Workforce

It is more important than ever that we invest in our employees, strengthen their technical and leadership skills and recognize them for delivering results that cultivate success. Even during our most difficult times, we kept a focus on learning and leadership development to foster a skilled and motivated team.

We have been standardizing, simplifying and integrating talent management processes, implementing global competency frameworks and enhancing leadership development programs for experienced managers.

All employees are encouraged to invest in their own professional development by developing an Individual Development Plan, or IDP, to help them meet current and future goals while maximizing performance in their current assignments. Employees work with their managers to help them identify strengths and areas for improvement.

We provide a comprehensive range of learning and development resources that align with ONE Ford. These include web-based and classroom training, special projects and task forces, as well as mentoring and coaching to foster functional and technical excellence, encourage teamwork, promote Ford values and enhance our ability to deliver results.

Similar to our vehicle development strategy, our learning and development strategy has been to leverage our global scale and "commonize" as much as possible. We are creating internal "colleges" that provide education and training in areas ranging from finance and information technology to product development and marketing. We offer global leadership development programs, including the Global Leadership Summit, which is aimed at executives and general managers, and the Global Executive Leadership Program, which is geared toward directors and senior managers. We also offer the Salaried Supervisor Institute/Program (SSI) for new or experienced leaders who want to enhance their ONE Ford skills.

ONE Ford is designed to build our employees' individual capability as well as our organization's capability to drive the business forward.

A Workforce to Support Our Global Footprint

Over the last few years in our Sustainability Reports, we talked about the difficult reductions made in our salaried and hourly workforce, which were necessary as part of our multi-year effort to return our North American operations to profitability and were aligned to the ONE Ford plan.

This year, we are pleased to discuss our plans to increase our workforce in order to support expected global growth. We have announced plans to add 7,000 new hourly and salaried jobs in the U.S. between 2011 and 2012. In 2011 alone, Ford is adding nearly 4,000 hourly jobs at several of our U.S. plants, including 1,800 at the Louisville Assembly Plant, which will build our next-generation Ford Escape. Ford also will add 750 salaried engineer jobs in product development and manufacturing in 2011. In addition, we are hiring salaried engineers specializing in batteries, system controls, software and energy storage to work on electric vehicles in Detroit and eight other U.S. cities.

As part of our 2007 Collective Bargaining Agreement with the UAW, we committed to in-source 1,559 jobs that were being performed by suppliers. At year-end 2010, we had plans to in-source more than 2,100 jobs, exceeding our commitment by 35 percent. We were able to bring union jobs into our U.S. plants thanks to a collaboration with the union to make the plants more competitive and efficient through modern labor agreements.

These new hires are welcome news for our Company, which witnessed workforce reductions of about 65,700 individuals over a five-year period starting in 2005. Since that time, we have closed or sold 18 manufacturing facilities in North America (including Automotive Components Holding (ACH) plants). Two more Ford facilities are slated for closure in 2011, with an additional facility scheduled to close in the near future.

As of December 31, 2010, our Ford North America business unit had approximately 74,900 salaried and hourly employees, including those at our ACH facilities.

(In the event of workforce reductions, Ford fully complies with the federal Worker Adjustment and Retraining Notification Act (WARN), which requires companies to provide 60-day notifications of plant closures to employees. See the Economy section of this report for more information on workforce issues.)

We have entered into collective bargaining agreements with the UAW in the U.S. and the CAW in Canada. In 2007, we negotiated a transformational agreement with the UAW, enabling us to improve our competitiveness by establishing a Voluntary Employee Benefit Association (VEBA)

trust to fund our retiree health care obligations. We completed pre-payment in full of our obligation to the UAW VEBA Trust during 2010 – 12 years before we were required to retire the debt.

In March 2009, Ford-UAW membership ratified modifications to the existing collective bargaining agreement that significantly improved our competitiveness, saving us up to $500 million annually and bringing us near to competitive labor cost parity with the U.S. operations of foreign-owned automakers. The operational changes affected wage and benefit provisions, productivity, job security programs and capacity actions, allowing us to increase manufacturing efficiency and flexibility. Modifications to the VEBA Trust allowed for the smoothing of payment obligations and provided us the option to satisfy up to approximately 50 percent of our future payment obligations to the UAW VEBA Trust in Ford common stock.

On November 1, 2009, the CAW announced that the majority of its members employed by Ford Canada had voted to ratify modifications to the terms of the existing collective bargaining agreement between Ford Canada and the CAW. The modifications are patterned off of the modifications agreed to by the CAW for its agreements with the Canadian operations of General Motors Company and Chrysler, LLC, and are expected to result in annual cost savings. The agreement also confirms the end of production at the St. Thomas Assembly Plant in 2011.

On November 2, 2009, the UAW announced that a majority of its members employed by Ford had voted against ratification of a tentative agreement that would have further modified the terms of the existing collective bargaining agreement between Ford and the UAW. The latest modifications were designed to closely match the modified collective bargaining agreements between the UAW and our domestic competitors, General Motors and Chrysler. Among the proposed modifications was a provision that would have precluded any strike action relating to improvements in wages and benefits during the negotiation of a new collective bargaining agreement upon expiration of the current agreement, and would have subjected disputes regarding improvements in wages and benefits to binding arbitration, to determine competitiveness based on wages and benefits paid by other automotive manufacturers operating in the U.S.

Even with recent modifications, our agreements with the UAW and CAW provide for guaranteed wage and benefit levels for the term of the respective agreements, and a degree of employment security, subject to certain conditions. As a practical matter, these agreements may restrict our ability to close plants and divest businesses during the terms of the agreements. Our collective bargaining agreement with the UAW expires on September 14, 2011; our collective bargaining agreement with the CAW expires on September 14, 2012.

In 2010, we negotiated new collective bargaining agreements with labor unions in Argentina, Brazil, France, Germany, Mexico, Russia, Taiwan and Venezuela.

In 2011, we are or will be negotiating new collective bargaining agreements with labor unions in Argentina, Brazil, France, Mexico, New Zealand, Romania, Russia, Taiwan, Thailand and the UK, in addition to the U.S.

Our improved financial performance resulted in some tangible improvements for our workforce in 2010. These included things such as paying profit-sharing to eligible UAW members, reinstating a 401(k) matching program, awarding 2010 merit increases for our U.S. salaried employees, and awarding bonuses for U.S. employees in 2011. However, as part of our ongoing commitment to maintaining competitive cost structure, we did not award merit increases for 2011.

We know that these compensation and benefits programs are valuable to our employees and their families, and we were pleased to be able to deliver on our promise to improve the competitiveness of our total compensation, as business conditions allow.

For our retirees, we have two principal qualified defined benefit retirement plans in the U.S. The Ford-UAW Retirement Plan covers hourly employees represented by the UAW, and the General Retirement Plan covers substantially all other Ford employees in the U.S. hired on or before December 31, 2003. We established, effective January 1, 2004, a defined contribution plan generally covering new salaried U.S. employees hired on or after that date. Other U.S. and non-U.S. subsidiaries have separate plans that generally provide similar types of benefits. We report on contributions to, and the funded status of, our pension plans in our Annual Report on Form 10-K.

Workplace Health and Safety

Ford Motor Company Vision for Health and Safety:

Our vision is to achieve zero fatalities and no serious injuries, and to protect and continually improve the health of our workforce.

In 1999, Ford began a Safety Leadership Initiative aimed at making our workplaces safer. In the 12 years since, we have seen dramatic results, with overall injury rates dropping to a tenth of their previous levels. We are competitive within our industry; however, we want to be the best. The practices established in this initiative are now so fully a part of how we run our business that we've dropped the term "Initiative" and now simply call it "Health and Safety Leadership."

The "health" part of health and safety is also an increasing focus for Ford. This is driven by growing recognition of the impact that health issues like heart disease, diabetes and obesity can have on the well-being of our employees, as well as the cost of providing health care to our workforce in the U.S. (See the Economy section for a discussion of health care costs.) By helping employees to prevent serious diseases and effectively manage chronic conditions, we can have a positive impact on our employees' quality of life and our bottom line.

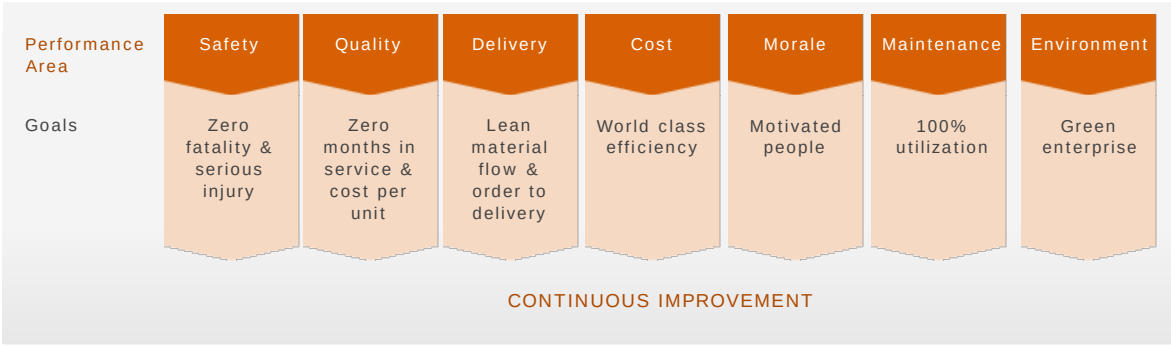
Our top executives and managers remain committed to ensuring that our people remain safe and healthy while working as part of our ONE Ford team. Management compensation has been more heavily weighted to safety results, including serious injury performance.

We recently updated our health and safety management systems with a new Safety Operating System (SOS) that is part of our overall manufacturing strategy, the Ford Production System. Safety is one of the core components of the Ford Production System, along with quality, delivery, cost, morale, maintenance and environment.

Under the SOS, new safety processes identify and assign roles for individuals. Those assigned an "O" are the "owners" of the element; those assigned an "R" are "responsible" for doing the task; and those assigned an "A" are "accountable" for ensuring the task is done.

For more our workplace safety systems, see the corresponding pages on safety governance; accountability; safe conditions; and relationship management.

Ford Production System



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Each of the seven key performance areas has specific targets and goals associated with it. Read more on Ford's goals and commitments.

"Our most valuable asset is our people. Nothing is more important than their safety and well-being. Our co-workers and families rely on this commitment. There can be no compromise."

Bill Ford and Alan Mulally

Related Links

This Report:
- Workplace Safety Data

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Governance

We have comprehensive governance systems for health and safety management. Our overarching Occupational Health and Safety (OHS) policy is established through a corporate Policy Letter and Directives. In addition, global OHS standards cover all health and safety topics, including safety, ergonomics, occupational hygiene, toxicology and clinical operations.

One of the most efficient and cost-effective ways to reduce safety and ergonomic risks in the manufacturing process is to engineer them out upfront. Our global manufacturing engineering teams use the latest technology of “virtual manufacturing” to predict and eliminate risks during the design stage.

We review safety regularly at the plant level and in regional OHS committees. Our President and CEO and our senior operating team review safety performance as part of their regular Business Plan Review, as does the global Manufacturing Operating Committee.

Our new Safety Operating System (SOS), a pillar of both our global manufacturing strategy and our ONE Ford values, supports the strategic plan for global manufacturing and provides a global template for safety improvement. While the tasks within the SOS are not new, the system now provides a more detailed approach to ensure we address health and safety risks. The SOS assists our plants in identifying all the tasks required by our safety standards and how they should be managed.

We also conduct unannounced audits, as well as audits of special high-risk areas. Facility staff perform quarterly SOS self-assessments and more frequent internal audits to verify key processes. Any significant incidents are reported weekly on a global basis so plant managers at other facilities can learn from each incident and take preventive action.

Nonmanufacturing sites conduct yearly self-assessments of their OHS risks and performance. All sites must respond to a series of safety questions that have been integrated into the Ford General Auditor’s Office basic audit review program.

We also conduct a safety culture survey, which was recently integrated into our overall annual Pulse survey of employees, to assess employee perceptions of our health and safety effectiveness. The results of this survey, combined with audits and routine gathering and sharing of performance data, provide a comprehensive picture of health and safety performance trends, as well as early warning of conditions that could lead to a decline in performance. The results of the 2010 Pulse survey show that the vast majority of Ford salaried employees – 87 percent, up from 85 percent the previous year – are satisfied with the Company’s safety culture.

Accountability

We establish accountability for health and safety performance through our business planning and scorecard processes, which set targets and assign responsibility for meeting those targets. Business Operation and plant managers are responsible for health and safety in the operations they manage, and their performance in this area is a factor in their incentive compensation. In addition, safety performance is included in the scorecards of salaried employees as appropriate, including those of the CEO and business unit leaders.

As our safety programs have strengthened, we have looked for ways to increase the accountability of all workers so they not only follow the rules and procedures for themselves, but so they also look out for their coworkers. Our safety data demonstrates to us that the majority of injuries are the result of individuals failing to follow safety protocols. We have increased training programs to ensure that workers understand what is required of them and to further build accountability into individual safety performance.

We aim to improve the culture of workplace safety so employees feel they can point out violations made by their coworkers in an effort to improve safety for everyone.

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Safe Conditions

A safe workplace is in part a product of the design and maintenance of the facility and its equipment, effective work processes and appropriate safeguards for potentially hazardous conditions. We use a variety of processes and programs to assess and manage risks. When potential hazards cannot be addressed through engineering, we use personal protective equipment and procedural controls to help prevent accidents and exposures.

We use internal and external benchmarking to drive health and safety improvements. Internal benchmarking helps us learn from plants that have demonstrated exemplary results and share the key leadership attributes that drive occupational health and safety excellence. Our annual President's Health and Safety Award program is used to identify the global best practices for replication. For results, see the Workplace Safety data.

External benchmarking on injury performance and safety processes serves to challenge our facilities to achieve best-in-class performance and document effective injury performance and management processes.

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Relationship Management

We know that to manage health and safety effectively, we must maintain good relationships with all stakeholders. Our unions globally share our commitment to a safe working environment and have been our partners at every step of the Health and Safety Leadership effort and other health and safety programs. We also maintain important external relationships with regulatory agencies, professional organizations and suppliers. In the U.S., formal partnerships among Ford, the UAW, the U.S. Occupational Safety and Health Administration and its state counterparts are a visible example.

We use multiple communication channels to reinforce safety messages, from our internal video broadcast system to messages from senior executives. In addition to regular safety talks, we periodically hold safety stand-downs that shut production at our plants to focus attention on a safety message. We can communicate nearly instantaneously with health and safety specialists worldwide, alerting those at similar facilities when a significant accident occurs, so they can take appropriate preventive action.

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Health as a Strategic Advantage

We have many programs and processes to ensure that our working environment does not damage the health of our people. A natural extension of this idea is to seek to enhance the health of our workforce, their families and the communities in which we operate. Good health contributes to well-being, longevity and productivity, among other benefits. And since families tend to share health habits – good and bad – promoting health among our employees can contribute to healthier communities.

In the U.S., where health care costs are a major issue for the Company, we have increased our emphasis on health and wellness programs. We are providing resources and tools to employees to help them make sound choices about health care services and coverage, and to help them understand the benefits of being a better health care consumer.

We are collaborating with communities and government agencies by:

- Promoting and investing in the adoption of health care information technology (HIT) through local initiatives, with funding assistance from government. HIT will enable physicians and hospitals to have access to all the information they need to provide their patients with the most appropriate care.
- Participating in regional health care quality measurement and public reporting initiatives, with potential data-sharing and funding assistance from government.

We also provide health programs to our employees and their families in varying forms in many other countries. We are working to ensure that all of these programs are designed and administered in a way that delivers optimum health results. In addition, we are implementing a comprehensive global health strategy to ensure that our efforts are targeted at local health priorities and that our people receive quality health care when they need it. Working with employees to identify and modify their personal health risk factors is a core element of the strategy. We are also working to leverage our global strengths by improving the way we share and coordinate our health promotion programs. We developed and published a global set of standard employee health indicators to be used to assess the health of our workforce and track the results of programs aimed at improving it. Examples of the metrics include smoking and obesity prevalence, rates of diabetes and hypertension, and the number of employees whose diabetes or hypertension is successfully controlled.

Elements of health and wellness programs around the world include health screenings, education and promotional campaigns. For example, Ford of Brazil implemented “Programa Viva Bem,” which promotes health campaigns in areas such as weight control, stress management, nutrition, diabetes prevention, breast cancer prevention and flu vaccination. These campaigns reduce absenteeism while reflecting positively on Ford's social commitment. Ford of Mexico developed programs at its facilities targeting similar issues. Health strategies vary by region and are flexible, in order to be tailored to local needs.

Our 2010 Safety Record

Ford's workplace safety record in 2010 was mixed. On the positive side, a major safety indicator – lost-time case rate – continued to improve, dropping 11 percent compared to 2009.

Improving our safety record is not only good for our employees, it's good for our business. We have calculated that progress in lost-time cases and days lost saves the Company approximately $30 million in direct costs each year.

Tragically, we experienced one employee fatality during 2010. A young product development engineer was killed in a public road accident in Mexico while with a convoy of test vehicles.

We also had two contractor fatalities on Ford property: a construction contractor on the site of our new facility in Thailand, and a transport driver in our vehicle compound in Camacari, Brazil. Zero fatalities on Ford property remains our primary objective.

We experienced 108 serious injuries among our direct employees. In most of the cases, the causes were related to slip, trip and fall events or performing work not according to our standards. These numbers represent strong improvement over 2009, but we will not be satisfied until we reach zero serious injuries.

For more information, see the data section of this report.

Case Study: The Death of a "Brother" at a Ford Production Plant

Editor's Note: Many companies are reluctant to publicly discuss an on-the-job fatality. Here at Ford, we have been disclosing fatalities since we began publishing our annual sustainability reports in 2000. This year, we have chosen to talk about a recent death that had a profound impact on our Company. By telling this story, we hope to spread that impact and further increase awareness of workplace safety. Find out more information on our safety record.

It was supposed to be routine.

It was the day after Christmas, in 2009, and the Kentucky Truck Plant in Louisville was preparing to remove some overhead beams in the assembly area – a standard job done countless times at manufacturing facilities. The crew was even running ahead of schedule.

Ronald Cassady was one of several millwrights[1] readying to remove a 10-foot-long steel beam. The beam – weighing 220 pounds– was 12 feet above the plant floor. Tragically, the heavy beam dropped onto Ron Cassady. He died a short while later at a local hospital. He was 54 years old.

Cassady's death ripped a hole in the tight-knit plant, which employs about 4,000 workers, and it drove home a sobering message for Ford employees worldwide: no task should ever be considered routine.

"Ron's death had a very profound impact on our Company," said Dr. Gregory Stone, Ford's director of occupational health and safety.

Ford has made significant strides in reducing on-the-job injuries, but we're not at zero yet. We continue to work on all fronts to improve safety, from the design of manufacturing lines to changing worker behaviors. In order to get to the next level – a goal of zero deaths or serious injuries – a cultural shift needs to take place, Stone explained.

For example, it may be uncomfortable to correct a worker on how he or she is doing a job, or more awkward still to report a colleague for violating safety procedures, Stone said. But isn't it better to do that, he continued, than to stay silent and risk a life-threatening accident?

All serious on-the-job incidents receive in-depth Company reviews to understand what went wrong, how the incident might have been avoided and how to prevent something similar from happening again. After Cassady's death, UAW-Ford safety teams took a more emotional approach, creating a 15-minute documentary that goes straight to the heart.

"We wanted to tell Ron's story. If watching this video doesn't change behaviors, I don't know what will," said John Fleming, Ford's executive vice president for global manufacturing and labor affairs.

The documentary, which was required viewing at all Ford manufacturing facilities, isn't easy to watch. One after another, coworkers describe Cassady – a 16-year Ford veteran and a lifelong millwright – as a good man and a great friend who "smiled so wide that his eyes disappeared." They also share the painful details of a day that went horribly wrong and that continues to haunt.

"Time will slowly help all of us gain closure in the loss of Ron Cassady, but we will never – and we should never – forget what happened," Bob King, who has since been elected to president of the UAW, says in the documentary's opening moments. "None of us can afford to be complacent where the health, safety and well-being of our UAW members and other Ford employees are concerned."

The video emphasizes the fact that the team of workers had performed the task hundreds of times before. "I don't think we can use the word 'routine' anymore, because this job was routine," said Judy Robison, UAW health and safety representative. "I don't care how many times you've done this. Every time, it can be a little bit different."

The video reminds employees that it is critical to report not just accidents that result in injuries, but the near misses, too, in order to help improve safety systems and processes.

"It was just a couple little things to go wrong," said Danny Huffman, a Kentucky plant safety engineer. "And you have something that bad happen."

1. Millwrights are crafts or trades people who work on the construction and maintenance of machinery.

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Engaging With Our Employees

This section on employees has described the myriad ways we engage with our employees. For example, we work closely with our employees' unions to develop agreements and governance plans through a collective bargaining process. Policy and procedures involving information, consultation and negotiations with employees over changes in the reporting organization's operations (e.g., reorganizations, plant shutdowns, employee transfers and reductions) are negotiated with the appropriate union. In addition, joint labor-management committees are set up at each plant to give employees an opportunity to influence working conditions and practices.

For our salaried employees, most of whom are not covered by union agreements, we have a strong Code of Conduct and comprehensive Policy Letters and Directives covering topics, including diversity, relevant to our employees. We also practice regular two-way communication with all employees through weekly webcasts, quarterly town hall meetings, manager-to-employee business cascades, surveys and informal communications, and we survey our salaried employees annually using the Global Pulse survey.

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Customers

Our customers' wants and needs continue to evolve. We monitor consumer trends and develop and promote products to fit certain market segments. In recent years, we have paid particular attention to the growing demand for more fuel-efficient and cleaner vehicles. Please see the Economy section of this report for a full discussion of our customers.

Diversity of Customers

Our customers are increasingly diverse. Our Insight program helps dealers better understand and serve minority customers. The program includes web-based cultural training, in-dealership workshops and assistance in developing comprehensive multicultural strategies.

As part of our multicultural efforts, we have launched a multi-language Asian-American website. Our integrated Spanish website – Ford's "Mi Negocio" (My Business) – is one of the most comprehensive of its kind in the auto industry, offering a one-stop resource and outreach services in key Hispanic markets.

Engaging with Our Customers

Maintaining good relationships with our customers is one of our most important activities. We provide a variety of means for customers to reach us, including mail, email and toll-free phone. We reach out to customers and potential customers through focus groups and other market research, and we track customer satisfaction.

We also gather online, consumer-generated content to learn what consumers are saying about both our Company and the industry in general. Increasingly, customers are using these electronic media – including websites, discussion groups, blogs and social networks – to research, discuss and problem-solve topics related to their current vehicles and those they are interested in purchasing. In recent years, we have been participating more actively in this social media arena, monitoring consumer-generated content found online. Summary reports are developed based on what we find and gather online, to convey what consumers are saying about our Company and our products. These reports are cascaded throughout the Company – from brand managers and product development engineers all the way up to senior-level management.

In addition to listening to what customers are saying online, we are also increasingly sharing information and engaging in discussions through various social media. For more on social media, please see the Economy and Governance sections of this report.

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Dealers

As the public face of Ford within our communities, our dealers are key employers and contributors to local economies, especially in rural areas and small towns.

In 2010, we announced plans to expand the Lincoln brand lineup to compete in the luxury marketplace and to discontinue the production of Mercury vehicles in the fourth quarter. In North America, there were no stand-alone Mercury dealerships.

For our Mercury dealers, we provided financial benefit packages in exchange for resigning the franchise. We also supported dealers with special purchase offers on Mercury vehicles to help them sell remaining Mercury inventory.

At our current and expected U.S. market share, we continue to have too many dealers, particularly in some of our largest 130 metropolitan areas. To address this overcapacity, we have been working with our Ford and Lincoln dealers to consolidate and restructure. As part of these efforts, the number of dealers in our Ford and Lincoln network in the U.S. has been reduced from about 4,400 at the end of 2005 to approximately 3,430 at the end of 2010. (For more on our dealer network, see the Economy section of this report.)

Dealer Diversity

Ford Motor Company continues to be a leader in the automotive industry in the percentage of minority-owned dealerships, with 185 (or 5.4 percent) of our 3,430 U.S. dealerships minority-owned at year-end 2010. We continue to work with our minority dealers to provide a foundation for a stronger future for ethnic minorities in all aspects of the industry through the creation in late 2010 of a unified minority dealer group – the Ford Minority Dealer Association (MDA). Our mutual goal is to create sustainable business operations that will promote Ford products and services. The MDA will work to address relevant minority dealer concerns and to provide input to senior management on all aspects of dealership sales and service operations. Working together, we will develop a ONE Ford approach to creating minority retail career opportunities, enhancing existing dealer profitability and viability, identifying multicultural marketing opportunities and improving existing education, training and community involvement.

Dealer Sustainability Program

In 2010, we launched a voluntary sustainability initiative for our dealers to reduce their carbon footprints and improve the energy-efficiency of their dealerships. The goal of the “Go Green” Dealer Sustainability Program is simple: to collaborate with dealers to implement cost-effective ways to improve the energy-efficiency of their facilities. We partnered with the Rocky Mountain Institute, a leading energy-efficiency organization, to pilot new technologies and architectural design principles.

Dealers who choose to participate receive a comprehensive energy assessment from sustainability experts at Ford. After the assessment, Ford and the dealer collaborate on energy-saving options available and tailor a program to meet the specific needs of each dealer.

One dealership, Jarrett Gordon Ford Lincoln in Winter Haven, Florida, recently completed its Go Green sustainability facility project, which focused on ways to reduce the facility’s carbon footprint. Brian Jarrett, president of the dealership, spent more than $500,000 on renovations, including a new hyper-insulated roof that keeps costs down thanks to its white, heat-reflective coating; installation of more energy-efficient cooling systems; and landscaping that requires less watering.

The renovated facility is largely lit by solar tubes that capture natural light. The new roof funnels rainwater to collection barrels for landscaping maintenance, as well as to a 5,000-gallon cistern and filtration system for other non-potable uses, such as car washing. The renovation projects have cut the dealership’s utility bills roughly in half.

Engaging with Dealers

Dealer relations are a key priority for us. The Dealer Council was created as a forum for open dialogue between Dealer Council members and Ford. Through the council process, dealers can voice their concerns, needs and ideas for working more productively as a team. In 2010, we agreed to separate the Ford and Lincoln National Dealer Councils to better focus on the unique priorities facing the Company and dealers. Dealer priorities and Ford management responses are published annually, providing transparency to the discussions between the Company and its dealers.

To ensure that communication lines remain open, Dealer Council members also participate as

members of National Dealer Advisory Panels. The current advisory panels, and the topics they address, are as follows:

- Customer Viewpoint Advisory Panel – customer satisfaction rating system, Viewpoint survey
- Product Committee – current and future product cycle plan, including lineup, design, styling and color/trim
- Order Complexity Task Force – reduction of vehicle ordering complexity, order guide simplification
- Marketing Dealer Advisory Board – vehicle packaging strategy, advertising creative, incentive programs
- Training Advisory Board – dealership employee training and recognition
- Parts and Service Manager Advisory Committee – fixed operations programs, including employee recognition/retention
- Commercial Truck Advisory Board – sales, marketing and product programs
- Service Marketing Advisory Committee – service marketing strategy and advertising
- Consumer Experience/Dealer Profitability Committee – enhancing the overall consumer experience and network profitability

The feedback gathered through these interactions has helped us develop various programs, change policies and enhance processes to improve customer handling and other significant elements of the dealers' businesses.

In addition to the Dealer Councils and Advisory Panels, dealer satisfaction is measured in various ways, including the biannual survey of the National Automobile Dealers Association (NADA), as well as day-to-day interaction with our dealers. Approximately 64 percent of dealers provided feedback through the Summer 2010 NADA survey process, which showed notable improvement in many areas – including some of the highest ratings ever from Ford and Lincoln Mercury dealers. With respect to our Ford dealers, we saw significant positive changes in every overall score. Our dealers rated us more favorably in terms of franchise value, policies and procedures, and people. In fact, the Overall Index Ranking shows Ford dealers moved up two spots and are now included in the Top 5 list of automotive brands.

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Salute to Dealers

Edsel B. Ford II congratulates the 2011 Salute To Dealers Honorees
Left to right: Ronnie Watkins, Don and Cheryl Brenengen, Edsel B. Ford II, Paul E. Miller, Dr. Klaus Sorg, Philip Pfohe and Keith A. Kocourek.

Ford annually recognizes dealers' outstanding contributions to their communities through its "Salute to Dealers" program. The program was established in 2001 to demonstrate our commitment to dealers who provide outstanding products and services and improve the lives of those in need. Dealers from our Ford and Lincoln brands, representing thousands of dealers across North America and Europe, were eligible to be nominated. This was the first year we honored European dealers.

Ford is very proud of the contributions made by the dealers who are nominated for this award and the 82 men and women who have been selected as Salute to Dealers honorees since the program's inception. Considering the high quality and community spirit of our dealer body, this is a tribute to their hard work and dedication to make the world a better place.

Our 2011 awards recognized six dealer principals for their unparalleled generosity and commitment to their communities. They are:

- **Don and Cheryl Brenengen, Brenengen Ford, Inc., Sparta, Wisconsin:** Don and Cheryl Brenengen believe that they and their dealership should give back to the community at every available opportunity. One example is the Boys & Girls Club of West Salem. The Brenengens were the driving force that helped make the club a reality. They spearheaded fundraising efforts, were key financial contributors and worked hundreds of hours on-site to revamp a former medical clinic into a viable, positive place for kids. In addition, the Brenengens purchased land to donate for a nature parkway as well as 24 acres for a paved hiking and biking trail. They have also donated thousands of pounds of beef by raising cattle on their hobby farm, and have spearheaded food drives and fundraising efforts for numerous regional food pantries.
- **Keith A. Kocourek, Kocourek Ford Lincoln, Wausau, Wisconsin:** Keith Kocourek is dedicated to improving life for others of all ages. He and his wife have been actively involved as mentors with Big Brothers Big Sisters of Northcentral Wisconsin for more than 20 years. (This program matches children in need with adult mentors.) Also, Mr. Kocourek organizes food drives at his dealership every year to support The Neighbors' Place, a community organization that serves more than 1,200 families monthly. In addition, his love of flying is more than just a hobby. He is a volunteer pilot for Angel Flight Central, where he provides a valuable volunteer service by personally flying those in need to doctors' appointments and other locations that otherwise would be inaccessible.
- **Paul E. Miller, Paul Miller Ford, Lexington, Kentucky:** Paul Miller's deep-rooted commitment to his community has had a positive impact on countless lives in Lexington. The Paul Miller Foundation has contributed significantly to multiple scholarship funds that benefit students at the University of Kentucky College of Medicine. The Miller family actively supports organizations such as the Kentucky Blood Center, United Way of the Bluegrass and the Susan G. Komen Race for the Cure®. The family has been instrumental in the success of a local environmental initiative called "Reforest the Bluegrass" by donating more than 15,000 trees to be planted. Miller also donated critical financial support, vehicles and space to more than 7,000 volunteers for the 2010 Alltech FEI World Equestrian Games, an event that brought

renewed life and commerce to Lexington's horse industry.

- **Philip Pfohe and Hugo Pfohe, Moto-Pfohe, Hamburg, Germany, and Sofia, Bulgaria**: Philip Pfohe has established a proven record of service in his region and is dedicated to supporting a number of important cultural and social causes. His financial support through Moto-Pfohe Conservation Grants is key to important archaeological research conducted at the historically significant Thracian Royal Residence site in the Kozi Gramady region, and to the protection and breeding of endangered land tortoises in the Dragoman, Kalogina, region. This work has also helped shift attitudes of local citizens to more actively support national heritage efforts and the preservation of nature. Mr. Pfohe has also been instrumental in supporting a kindergarten and secondary special education program for children with hearing disorders.

- **Dr. Klaus Sorg, Edmund Sorg GmbH, Fulda, Germany**: Dr. Klaus Sorg is a tireless advocate and supporter of numerous charities and causes in the communities in and around his Ford dealerships. His unwavering commitment to and support for the Caritas Workshop have given new hope and a feeling of self-worth to hundreds of disabled people in the region. The workshop provides important skills and job training, enabling participants to become meaningful contributors to society. Dr. Sorg also provides critical resources as well as his personal engagement with patients at Hospice Fulda, a local organization that provides humane and compassionate care to the terminally ill. Dr. Sorg credits his hundreds of dealership employees for their humanitarian involvement in their communities.

- **Ronnie Watkins, Ronnie Watkins Ford, Gadsden, Alabama**: Ronnie Watkins has committed himself to causes that benefit the greater good of his community. His real passion, however, lies in helping the many underprivileged children and their families in the area. He is a major contributor, with hands-on involvement, to the ESTEEM program (Encouraging Students to Exhibit Excellent Minds). Watkins is also a generous donor, and is involved in several ministries at the Meadowbrook Baptist Church, which directly helps people in his local community. His humanitarian efforts in Gadsden also include regularly ringing the bell for The Salvation Army and teaching a Bible class on Sundays.

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Suppliers

Ford and its suppliers must work jointly to deliver great products, have a strong business and make a better future. In today's economic environment, achieving lower costs and improving quality require an unprecedented level of cooperation with suppliers and the maintenance of strong supplier relationships.

For information about our supply chain relationships, including human rights issues and supplier diversity, please see the Supply Chain section of this report.

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Investors

We provide information to and interact regularly with investors through a variety of means, including our corporate website, annual report and regulatory filings, annual meeting and periodic analyst conference calls. We also engage with socially responsible investment organizations that are seeking information to use to evaluate our sustainability performance. These interactions help us stay abreast of and respond to investor concerns.

Our Investor Relations website is a good source of information for investors. It contains various Company reports, a schedule of events and investment information.

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Communities

Ford has been supporting community efforts since our founding more than 100 years ago. For us, it is not just about donating money. It is also about building partnerships and working with others to address the difficult challenges so many people are facing. This includes helping feed hungry people, providing mentors in classrooms and teaching teenagers to drive more safely.

In our headquarters state of Michigan, especially, we have witnessed the impact of the auto industry's recent struggles and the resulting stresses on communities. We are as committed as ever to driving a brighter and better future for our communities and for our world. We aim to be a good neighbor – in good times and in bad.

Fundamental changes have been happening within our industry and our Company in recent years, including increased competition globally and changing markets for our products, with the bulk of future sales growth expected to occur in emerging economies. At the same time, we and other companies are expanding sourcing in these lower-cost emerging markets, as a way to serve both local markets and the global supply chain. These changes are affecting not only how we manage our operations, but also how we engage with and affect the communities in which we operate.

Whether doing business in Michigan or Malaysia, we seek to respect and make a positive contribution to our host communities. Operating in emerging economies, however, does bring with it some new community issues for us to understand and manage.

One of these issues is human rights. Specifically, we must ensure that our products, no matter where they are made, are manufactured under conditions that demonstrate respect for the people who make them. We also must respect the rights of people living in the communities around our facilities, as well as our suppliers' facilities, who may be affected by those operations. We view respect for human rights as not only a core operational issue, but also a key to maintaining the trust and respect of local communities. That trust is critical if we want to continue to operate and, increasingly, sell our products in those locations. See the Supply Chain section for more on these topics. We are also looking at water issues in relation to human rights and are exploring ways to connect our water strategy with water-related community initiatives. See the Water section for more information.

Investing in Communities

See some of the community-related projects we are working on around the globe.

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Perspectives on Sustainability

Michael J. Brennan

President and Chief Executive Officer, United Way for Southeastern Michigan

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Engaging with Communities

To effectively and sustainably manage community relations issues, we must embed them in our core business practices and seek to manage them with the same rigor as other aspects of our business.

Anticipated changes in the market for our products have implications for how we engage with local communities. The mobility needs of potential customers in emerging markets differ in some fundamental ways from those in the developed markets the auto industry has primarily served to date. Local community engagement is a key strategy Ford is using to learn about and understand how best to meet the needs of these critical and fast-growing markets. (See the Sustaining Ford section for more on this topic.)

In recent years, we have taken steps to develop a more integrated approach to managing the different dimensions of our community involvement. Our goal is to more closely connect our traditional community relations programs, community impact assessment processes and human rights efforts. Over time, we also want to link all of these efforts with our development of new products and services to meet the unique mobility needs of communities in emerging markets. In our view, this approach will not only increase efficiencies, but also maximize our impact and effectiveness.

The release of our Code of Basic Working Conditions (CBWC) as a formal Policy Letter reinforced that our behaviors and actions include a focus on issues outside the walls of our plants and facilities. The performance criteria for CBWC assessments of owned and operated facilities now address several key community issues and evaluate engagement with members of the local community.

Our work to develop and implement the CBWC has helped to establish our trustworthiness in communities in which we are developing our sustainable mobility strategy. In our view, developing a deep understanding of the unique mobility needs of emerging markets is a precondition of being able to do business in those places.

Investing in Communities

World | North America | Central and South America | Europe | Africa | Asia and South Pacific

Select a region

Alberta

Edmonton, Alberta

Employees at the Edmonton Business Center collected food and toiletries. Each volunteer then worked a shift at the food bank sorting food and packing care boxes.

Arizona

Stop Hunger Now

Ford volunteers packaged high-protein, dehydrated meals at a rate of 300+ per hour at Stop Hunger Now. The meals will be shipped around the globe.

California

Irvine, California

Ford volunteers sorted, labeled and packaged food at the Second Harvest Food Bank of Orange County food distribution warehouse in Irvine, California.

Colorado

Project C.U.R.E.

At Project C.U.R.E., volunteers unloaded trucks, and sorted and packaged the donated medical supplies for distribution to high-need areas around the world.

Georgia

Chattahoochee River

Teams of Ford volunteers in Smyrna cleaned up the banks of the Chattahoochee River, filling 50 garbage bags with 900 pounds of garbage.

Indiana

Indianapolis

UAW volunteers in Indianapolis once again displayed their pride in and commitment to Ford and filled a dumpster with debris collected from the grounds of the historic Ford Plant.

Mexico

Mexico

The HR department in Naucalpan's CSAP coordinated the collection of groceries and their delivery to a help center serving orphans and elderly people.

Michigan

Advanced Technology Academy

Volunteers assembled a greenhouse at the Advanced Technology Academy and spread tons of mulch over play areas and garden beds on the school grounds.

Angels' Place

Volunteers built and installed storage units at Angels' Place, a group home for developmentally delayed adults.

Ann Arbor, Michigan

Autumn gardening chores were completed by Ford volunteers in the extensive and beautifully landscaped gardens at Arbor Hospice & Home Care Center.

Detroit, Michigan

Volunteers created and installed mosaic panels to renovate the Arts & Scraps building exterior, where 28 tons of materials are recycled annually and used for creative projects by school children and adults.

Royal Oak, Michigan

At Common Ground Sanctuary, 30 volunteers installed new kitchen cabinets, replaced a shed floor, landscaped the exterior and painted the interior at a runaway shelter for teens 12–20 years old.

Detroit, Michigan

At a Detroit Rescue Mission Ministries transitional housing program for women and children, Ford volunteers built a play structure and installed safe matting underneath.

Detroit Zoo – Royal Oak, Michigan

Ford volunteers helped clean up the area surrounding the Ford Education Center and prepared garden beds for the upcoming winter, while being carefully supervised by several animals at the Detroit Zoo.

Taylor, Michigan

Volunteers sorted food, stocked shelves and assisted clients as they shopped for food at Fish & Loaves, a food distribution warehouse and grocery store for needy families.

Ann Arbor, Michigan

Volunteers sorted and packaged food at Food Gatherers, a food rescue bank.

Gleaners

MP and L locations in Michigan conducted collection drives for food, clothing, medical supplies, building materials and other items most needed by underprivileged people, and donated the items to Gleaners.

Detroit, Michigan

Volunteers helped turn vacant houses back into homes by renovating several foreclosed properties purchased by Grandmont Rosedale Development Corporation.

Habitat for Humanity

Habitat for Humanity homes were built in Detroit, Macomb County and Ypsilanti, including one built to LEED standards.

Henry Ford Estate

The walkway along the Rouge River, running behind the Henry Ford Estate, was repaired by Ford volunteers, and borders of the walking paths throughout the beautiful grounds were trimmed.

Matthaei Botanical Gardens – Ann Arbor, Michigan

A bridge over Fleming Creek was restored and now connects the east and west banks of a loop trail system near the Marilyn Bland Prairie.

Maybury Farm – Northville, Michigan

Farmyard buildings were rehabilitated with paint and minor repairs, old fencing was repaired, and new fencing and a new play yard were installed at Maybury Farm.

Redford, Michigan

Volunteers made the medical facilities on the grounds of the Methodist Children's Home cozier, more kid-friendly and welcoming.

Wayne County Parks – Westland, Michigan

Nankin Mills Park was landscaped, and trails were maintained by Ford volunteers.

Penrickton – Taylor, Michigan

Volunteers painted, installed a door, removed old sod and laid new, installed fencing, and dug out and prepared a new garden bed at Penrickton Center for Blind Children.

Ann Arbor, Michigan

Volunteers sorted and organized reclaimed building materials at Recycle Ann Arbor, where the sale proceeds fund community projects and Habitat for Humanity – Huron Valley.

Highland Park, Michigan

The interior of the Ruth Ellis Center, a shelter for youth, was transformed with fresh coat of paint.

St. Vincent de Paul

Ford volunteers sorted and organized donated items at St. Vincent de Paul resale shops in Clinton Township, Lincoln Park, Utica and Westland.

Village of Dundee – Dundee, Michigan

A village park, destroyed by a tornado, was rebuilt by Ford volunteers. Basketball courts were installed by the village, and Ford volunteers restored and beautified the area and planted trees, spread mulch and laid sod.

Vista Maria – Dearborn Heights, Michigan

Residents of a residential facility for abused and neglected young girls now enjoy outdoor barbeques on the new patio built by Ford volunteers.

World Medical Relief – Detroit, Michigan

Volunteers assembled a 10,000-piece mailing for a World Medical Relief Wintertime Blankets for Homeless appeal, which will solicit blankets and warm clothing for needy Detroiters.

Missouri

Senior citizens

Teams of Ford volunteers literally brightened the lives and homes of area senior citizens! The volunteers changed old light bulbs to energy-efficient ones, installed new furnace filters and replaced smoke alarm batteries.

New York

New York

Ford volunteers delivered food to area seniors and infirm people.

Ohio

Cleveland

Volunteers from the Cleveland Plant cleaned up and spread mulch on the University Settlement day care playground and then packed groceries in the food bank for clients.

Lima

The Wheelchair Ramp Crew of UAW Local 1219 and the Lima Engine Plant made repairs and reinforced areas of a home and then built a ramp for a needy local woman.

Ontario

Ontario

Employees at Ford Motor Company of Canada Limited and Ford Credit Canada Limited filled ten new Ford Fiestas with school supplies and nonperishable food items for local charities.

Pennsylvania

Greater Pittsburg Food Bank

Pittsburg FCSD and FMCC volunteers worked in the Re-pack Center of the Greater Pittsburg Food Bank and sorted food for distribution to needy clients. The

Food Bank distributes 1.7 tons of food each month.

South Carolina

Greenville Business Center

Generous Greenville Business Center employees each donated over 10 lbs. of food, exceeding the Center goal of 1 ton (2,000 lbs.), to the Salvation Army, and provided book bags filled with school supplies to 80 local children. Also, more than 50 employees donated blood and assisted with a blood drive that collected 37 pints of blood.

Texas

Dallas

A MODEL Team of Ford volunteers set up a silent auction in Dallas; the auction was MADD of North Texas' major fundraiser.

Fort Worth

Volunteers sorted food, packed boxes and stocked shelves at the Tarrant Food Bank in Fort Worth, providing food for thousands of needy area residents.

Houston

Using true Ford ingenuity, volunteers set up an assembly line and packaged containers of fresh food at the Houston Food Bank – Keegan Center for distribution to needy citizens.

Virginia

Ellanor Lawrence Park

Ford volunteers worked to beautify the historic and cherished Ellanor Lawrence Park.

Washington

Food Lifeline in Seattle

A MODEL team of Ford volunteers sorted, labeled and packed food at Food Lifeline in Seattle to help feed those in need.

Select a project location

Alberta, Arizona, California, Colorado, Georgia, Indiana, Mexico, Michigan, Missouri, New York, Ohio, Ontario, Pennsylvania, South Carolina, Texas, Virginia, Washington

Argentina

Don Orione Children's Center – Buenos Aires

Ford Credit employees organized a clothing and school supplies collection and delivered the items to the Children's Center.

Escuela Gabriela Mistral, Puerto Constanza – Buenos Aires

The poor children in Entre Rios had their school building improved and received generous donations from this Pacheco Paint Shop team.

Food Bank Charity Walk – Buenos Aires

Pacheco Plant hourly and salaried employees ran a race in the streets of Buenos Aires or walked inside the Plant to raise awareness, supplies and money for a food bank. Entry fees were donated for nonperishable food items, including milk powder, sugar and other staples.

Hemotherapy Institute, Health Ministry – Buenos Aires

Volunteers at the Pacheco Plant donated blood. Each donation is expected to help three people.

Work Education Center for Children – Buenos Aires

Volunteers trained teachers in information technologies and helped them develop activities for students with special needs. They were trained on the six new PCs donated by Ford through the Fiscal Credit Provincial program.

Work Education Center for Children – Buenos Aires

Volunteers prepared theater plays for the children at the Center that will then be performed in schools, orphanages and homes for the elderly.

Social Service Organizations – Buenos Aires

The Pacheco Finance employees organized a clothing drive and delivered the items to five organizations in Buenos Aires.

Habitat for Humanity – Buenos Aires

Pacheco employees worked on homes being built for low-income families.

Aruba

Global Week of Caring

R.E. Yrausquin & Sons dealership supported Global Week of Caring by participating in a walkathon to promote child abuse awareness.

Brazil

Infanti Maria Jose Alves da Silva

At Infanti Maria Jose Alves da Silva, games, small gift bags, school and craft supplies and three volunteers dressed as clowns helped entertain the three- to five-year-old orphans, thanks to Ford volunteers.

Cayman Islands

Vampt Motors

Vampt Motors dealership employees removed hundreds of pounds of trash from a local beach, making the area beautiful once more.

El Salvador

Grupo Gevesa

The Grupo Gevesa dealership donated a percentage of all service invoices and collected additional funds from their community to help children with Down's syndrome at a school in San Miguel.

Guatemala

Excel Motors

Employees of Excel Motors, SA, sponsored a two-day construction project building houses for people whose homes were destroyed by severe weather.

Honduras

Yude Canahuati, S.A. de C. V.

A school for blind children received special learning aids and a remodeled laundry room from the kind employees of Yude Canahuati, S.A. de C. V. dealership.

Panama

Distribuidora David

Distribuidora David dealership employees volunteered at a local school.

Puerto Rico

Auto Vegas

Auto Vegas helped their community's most needy. The dealership and employees

donated a percentage of service department sales, matched all funds received from the community, provided food and served it to 150 homeless individuals.

Select a project location

Argentina, Aruba, Brazil, Cayman Islands, El Salvador, Guatemala, Honduras, Panama, Puerto Rico

Belgium

MPI Ter Heide Genk – Ford Genk

Ford of Belgium volunteers cleared and restored trails and footpaths and made them wheelchair accessible for 20 developmentally and physically challenged residents of a residential facility.

England

Dunton Research and Engineering Center

Dunton Research and Engineering Center volunteers worked two days removing trees, installing artificial grass, repairing fences, painting a shed and installing vegetable planters, a shaded sail area and seating for students and teachers at Westwood Primary School.

Germany

Cologne

Employees in Cologne accomplished a wide variety of projects including; escorting wheelchair-bound seniors to the zoo, mentoring children aged 6–10; serving as role models and coaching students in a secondary school business program; and installing rabbit-proof fencing around a children's garden.

Italy

FMCC

The HR and Trans Project staff of FMCC conducted a Global Week of Caring project.

Spain

Natural Park of L'Albufera – Valencia

One group of Ford Valencia volunteers cleaned La Punta beach, an important Mediterranean rest stop for birds migrating each year between Europe and Africa, while another group painted and repaired a residential facility for mentally handicapped individuals.

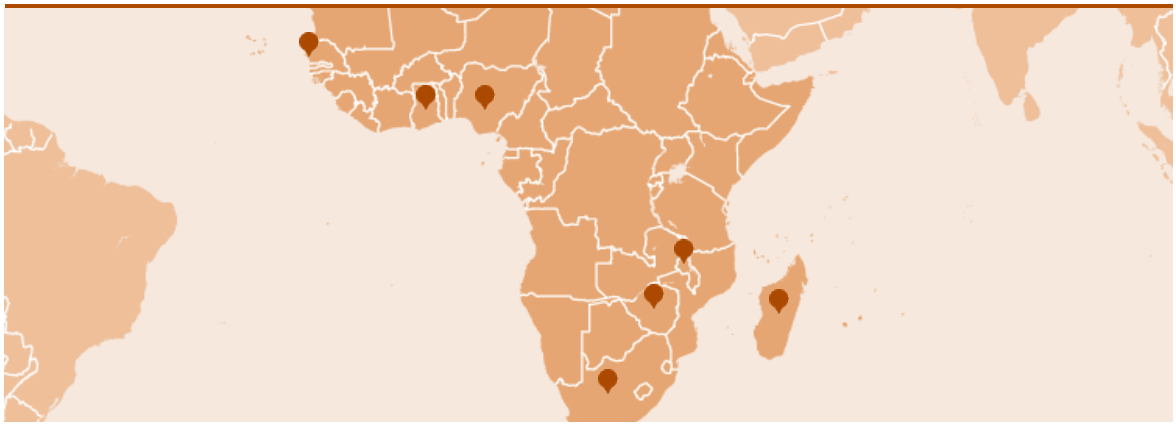
Wales

PAG Machining

14 employees of the Bridgend Engine Plant, PAG Machining, walked 22 miles, with 1,000 other volunteers, along the Gower Peninsular on the southwest coast of Wales, raising funds to support cancer research and services to patients.

Select a project location

Belgium, England, Germany, Italy, Spain, Wales



Ghana

Apirede

3,000 Apirede villagers have fresh drinking water from a well thanks to Mechanical Lloyd Company. The Ford dealer in Ghana donated $6,000 to cover the cost, and employees landscaped the area surrounding the new well.

Madagascar

Ambohibao

The Materauto dealership donated $2,000 to transform a small lodge at the school in Ambohibao into a canteen to provide nutritious meals to students who are from low income families.

Malawi

Blantyre

FAO Malawi Limited provided funding, and company volunteers painted Limbe Primary and Ndirande Primary Schools, which educate needy children in Blantyre.

Nigeria

Apapa

Briscoe Ford dealership employees raised funds for Apapa General Hospital.

Senegal

Dakar

The L'Africaine de L'Automobile dealership donated a percentage of service and repair proceeds to the Orphan's Fund in Dakar.

South Africa

Pretoria and Port Elizabeth

Ford employee volunteers in Pretoria and Port Elizabeth accomplished several projects including: restoring water flow to the Tiperion Reserve's lower wetlands and eradicating poplar trees that were threatening native grasses and shrubs; painting rooms and repairing sliding doors at the Mamelodi community; and working two days making repairs, painting classrooms, and winterizing doors and windows at a school for physically challenged, low-income students under 14 years old. Other school yards were landscaped and cleaned, classrooms were painted, toilets were repaired and a community garden was established.

Zimbabwe

Streets Ahead

Duly Motors provided funding and employees renovated Streets Ahead, a shelter housing 30 street kids. The entire exterior was repaired and painted, the washrooms were rehabilitated and the interior was cleaned and painted.

Select a project location

Ghana, Madagascar, Malawi, Nigeria, Senegal, South Africa, Zimbabwe

Australia

Blood donations

Fifty-six employees donated blood at mobile collection areas set up in the plants.

Brunei

Child Abuse Center

The entire staff of the Premier Auto dealership, including 41 employees and the Dealer Principal, spent two days cleaning, painting and landscaping the Child Abuse Center. The dealer also donated $1,700 worth of gifts to the children.

Cambodia

Kirirom National Park

The R.M. Asia dealership team planted 280 tropical trees and plants in damaged areas of the Kirirom National Park.

China

Chongqing, China

Ford Mazda Automobile (CFMA) employees raised more than $14,600 for an elementary school and purchased: 20 new computers; 2,600 sq. meters of playground resurfacing; a 25-meter-long stainless steel safety fence for the playground; basketball, badminton and tennis equipment; and books, games, DVDs, and clothing for the children and their family members. Additionally, a one-on-one mentorship program was established for 22 needy students, and volunteers funded school lunches for the year.

Guam

Operation Walkway

Triple J Ford dealership employees rehabilitated the campus walkways at a school for handicapped children. Operation Walkway volunteers cleaned and repaired the uneven surfaces and repainted the area with anti-skid paint.

India

Chennai

The Ford Business Services Center and FTSI Community Development Team volunteered at two Chennai area facilities providing services to underprivileged school students, including physically challenged children and orphans.

Korea

Seoul

The Parts and Service department donated 5 percent of total parts sales (U.S. $9,000) to the aged, disabled, homeless and sick residents at St. Joseph Village in Seoul. Volunteers cleaned and washed the residence, harvested rice and peppers and donated firewood.

Lao

RMA Lao and Lao Bicycle Association

In a month-long project, RMA Lao and Lao Bicycle Association employees renovated an old rural school and collected new clothing and school supplies for the underprivileged children there. The group also organized activities at the school and planted trees to benefit the entire community.

New Caledonia

Johnston and Compagnie

A percentage of Johnston and Compagnie's service department income was donated to purchase toys, books and gifts that the Pink Mothers, a group of hospital volunteers, will deliver to children in the local hospital.

Philippines

Calamba City

Employees planted trees, built houses and donated books at the Gawad Kalinga community in Calamba City.

Saipan

Joeten Motor Company, Inc.

Employees of Joeten Motor Company, Inc., together with community members, cleaned an extensive stretch of beach along the Atlantic Ocean from Minachom Atdao Pavilion to the Joeten Motors facility.

Singapore

Vantage Automotive Limited

A foundation that provides financial assistance to children with cancer received a generous donation from Vantage Automotive Limited.

Taiwan

Ford Lio Ho

Ford Lio Ho employees cleaned up a local beach and built a heart-shaped playground for children.

Thailand

Thailand

Ford staff, dealers, suppliers and customers joined forces and together built a new running track and exercise park for the local community.

Vietnam

Hai Duong

Employees in Hai Duong cleaned up area lakeshores during the Global Week of Caring.

Select a project location

Australia, Brunei, Cambodia, China, Guam, India, Korea, Lao, New Caledonia, Philippines, Saipan, Singapore, Taiwan, Thailand, Vietnam

Ford Motor Company has a long legacy of compassion. In the early 1900s, when Henry Ford was

Related Links

consumed with creating products and practices that would change the world, he realized: “A business that makes nothing but money is a poor business.”

More than 100 years later, we continue to touch lives in a way that we believe would have made our founder proud. Our Company’s commitment to supporting local communities through charitable contributions and volunteer efforts has remained unwavering – even during our darkest days. We deliver on our commitments through our Company’s community relations arm, formally known as Ford Motor Company Fund and Community Services. (The Ford Foundation, meanwhile, is a separate entity from the Ford Motor Company. No member of the Ford family nor Ford Motor Company management is on the Ford Foundation board of trustees.)

Founded as a not-for-profit organization in 1949, Ford Motor Company Fund is responsible for the Company’s philanthropy and volunteerism efforts. Made possible by Ford Motor Company profits, the organization makes contributions to qualified U.S. not-for-profit organizations that promote corporate citizenship, philanthropy, volunteerism and cultural diversity for those who live in the communities in which Ford operates. It supports organizations in three strategic areas: driver safety, education and American heritage.

In addition to donations from the Fund, Ford also makes direct corporate contributions to a variety of charitable organizations and causes.

In 2010, Ford contributed a total of $29 million (the same amount as 2009). Of that amount, $18.6 million was in the form of grants awarded by Ford Motor Company Fund; the remainder was direct corporate giving.

In addition to grants, we encourage our employees to participate in programs that build stronger communities through the Ford Volunteer Corps. During 2010, some 27,000 Ford employees and retirees in 41 countries provided more than 112,000 hours of work on more than 1,100 community service projects – the equivalent of $2.25 million of in-kind corporate contributions. Many of these volunteer projects received mini-grants to help complete the project.

Our community relations work extends to our areas of international operation. Ford of Mexico, for example, has been recognized as a Socially Responsible Company for nine consecutive years by the Mexican Philanthropy Center. The award is given to companies that encourage quality of life in the workplace, strong ethics, environment care in operations and close involvement in the community. Ford and our dealers have supported the School Building Project, which has built 212 schools in nearly every state of Mexico.

This Report:

- Ford Motor Company Fund and Community Services
- Ford Volunteer Corps

External Websites:

- Ford GlobalGiving Portal

Ford Motor Company Fund and Community Services

Ford Motor Company Fund Vision:

To be recognized as the global leader in corporate philanthropy that builds a better world through community engagement, education and driver safety programs.

Investing in communities is more than the right thing to do; it's also smart business. Our global company is only as strong as the local communities where our employees and customers live and work, and it is in our mutual interest that we work together with communities to make meaningful contributions in their quality of life.

It is in that spirit that Ford Motor Company Fund and Community Services supports programs and initiatives that help build vibrant and sustainable communities. Recently, we expanded our program to partner with our dealers and a diverse range of nonprofit organizations to enhance quality of life, with a focus on U.S. cities where Ford has a presence, such as Chicago, Detroit, Miami, Nashville, Phoenix, San Antonio, Texas, and San Diego. We're calling these our "Operation Goodwill" cities.

Our efforts support some of the most vulnerable citizens in the U.S. The goals of the Fund are the same as they were when Henry Ford II founded it 60 years ago: to support local and national programs that effect change in our communities and improve the quality of life.

Ford Motor Company Fund and Community Services builds communities through volunteerism and partnerships with nonprofit organizations that focus on education, preserving America's heritage and driver safety. The following are examples of some of our most significant or new programs.

Community Initiatives

- In 2009, we launched the Ford Mobile Food Pantries program to help social service organizations in southeast Michigan collect and distribute food to those in need. In the first year, we provided three Ford Transit Connect vans for food deliveries. We have since expanded the program significantly and expect to donate 16 vans for food collections and deliveries by the end of 2011. Overall in 2010, Ford contributed $210,000 to this program.
- For the 10th consecutive year, Ford Motor Company and Newman's Own®, Inc., are partnering with Feeding America, the nation's largest hunger-relief organization, to provide Ford refrigerated trucks loaded with Newman's Own food products to U.S. communities in need. This unique "Partnership for Hunger Relief" began when Paul Newman reached out to Bill Ford in an effort to improve the distribution of produce and other perishable food to those facing hunger in rural America. Today, a fleet of 98 refrigerated Ford trucks and vans now reaches into all 50 states. To date, our donated trucks have delivered more than 130 million meals to families across the country, particularly in hard-to-reach, underserved communities. Our total donations for this program in 2010 came to $380,000.
- In 2010, the Fund continued to support organizations and initiatives that preserve America's culture heritage, including the Gettysburg Museum & Visitor Center and a new two-year exhibit at Mount Vernon that showcases artifacts from the Washington collection. In addition, we continued funding to make possible the premier of a new classical piece by composer Joseph Schwantner in all 50 states in 2010. We also teamed again with the Smithsonian Institution and the Cincinnati Museum Center to offer Freedom's Sisters, a touring exhibition that honors the legacy of 20 influential African-American women.
- Ford employees and Ford Motor Company Fund are major supporters of the United Way in the U.S., giving nearly $7 million in 2010 to support numerous community-based social services organizations.
- Ford also has a long history of working with disabled American veterans. As a major contributor to the Jesse Brown Memorial Youth Scholarship Program, for example, Ford provides scholarships to students who volunteer at local Veteran's Administration medical centers. For 16 years, Ford has also been a sponsor of the National Disabled Veterans Winter Sports Clinic, which brings hundreds of disabled veterans to the mountains of Colorado to participate in adaptive sports, including skiing, snowmobiling, sled hockey and rock wall climbing. In 2010, Ford donated $200,000 to purchase seven new vehicles for the Disabled American Veterans (DAV) Transportation Network and provided $25,000 to the DAV's youth volunteer scholarship program.

Driving Safety Programs

Illinois High School students learning how to recover a vehicle from situations such as ice, rain, snow, or slippery surfaces in the Ford Driving Skills for Life course.

- The Fund supports teen safe driving through its award-winning Ford Driving Skills for Life program, a safe-driving curriculum that has trained millions of U.S. teenagers through web-based and in-person driving sessions since the program was launched 2003. Developed by Ford, the Governors Highway Safety Association and a panel of safety experts, the free program educates teens with a combination of ride-and-drive events, educational materials, customized in-school events and an interactive website. The program, which has received numerous awards, including the World Traffic Symposium Award, is offered in more than 30 cities in the United States and was expanded into Asian markets in 2008 and into Puerto Rico in 2010.We also recently expanded the program through a partnership with the National FFA Organization (formerly Future Farmers of America). (The National FFA honored Ford in 2010 with its Distinguished Service Citation for outstanding contributions to the FFA and agricultural education. Ford is the largest corporate sponsor of scholarships in the National FFA scholarship program.)

- Corazón de mi Vida is a national bilingual initiative on child passenger safety developed by Ford Motor Company Fund and Community Services in partnership with the Latino Children's Institute and the National Highway Traffic Safety Administration. Through this initiative, Latino families, child care providers and the Spanish-speaking community in El Paso, Phoenix and San Antonio are informed about the important role that safety seats and safety belts play in saving children's lives. Through continued support from Ford, more than 2,875 child safety seats have been distributed, more than 380 bilingual child safety seat technicians have been trained and our safety messages have reached approximately 2.2 million people.

Education Programs

- The Ford Partnership for Advanced Studies uses an academically rigorous curriculum to provide high school students with 21st-century learning experiences to enhance real-world skills. Since its inception in 2004, more than 100,000 students in 27 states have participated in the program, which relies on collaboration among high schools, community organizations, higher education institutions, government entities and businesses. The program has been awarded the National Governors Association's first Public–Private Partnership Award for innovative educational programming, among other awards.
- The Henry Ford Learning Institute is a national nonprofit organization that supports high schools that are focused on creativity and innovation, integrated with college-preparatory courses in math, science, social studies and language arts. The first charter school – Henry Ford Academy (HFA) – was opened in 1997 in Dearborn, Michigan. Since then, three other HFA schools have opened in Detroit, Chicago and San Antonio, Texas, as part of a network of schools.
- The Ford College Community Challenge invites 32 partner universities and colleges to develop student-led programs that tackle a specific social problem. The five winning projects each use a $50,000 Ford grant to build sustainable communities in an innovative way. Recent projects include a unique automated bike lock and kiosk in Georgia; a winterization project to benefit low-income senior citizens in northern Michigan; and business support to a Detroit bakery that employs formerly homeless and incarcerated men.
- Ford "Blue Oval" Scholarships are awarded to individual students through organizations such as the Hispanic College Fund, the American Indian College Fund, the United Negro College Fund, the Jesse Brown memorial Youth Scholarship Program and the Society for Automotive Engineers Educational Foundation. In 2010, more than 500 individual scholarships were awarded.
- The Ford Driving Dreams Through Education Program, launched in 2010 in partnership with the League of United Latin American Citizens (LULAC), aims to address the high school dropout rate among Hispanic students. Ten LULAC councils are receiving support to implement local programs that help students stay in school.

Other Company Programs

In addition to the above, Ford supports a wide variety of other organizations through corporate contributions and sponsorships. Highlights from 2010 include the following:

- For more than 20 years, Ford has been involved in helping find a cure for juvenile diabetes. See the juvenile diabetes case study for more information.
- Ford has also been a long-time supporter in the fight against breast cancer. For 17 years, Ford has been a National Series Sponsor of the Susan G. Komen Race for the Cure® series and has dedicated more than $110 million to the cause in donations and in-kind gifts. Ford's commitment goes well beyond the October race; it lasts 365 days a year and focuses on raising awareness, support and donations for this cause, including customized apparel that is sold on fordcares.com. This specially designed clothing and accessory line, called "Warriors in Pink," is dedicated to those fighting this disease, and 100 percent of net proceeds go to Susan G. Komen for the Cure. Since 2006, we have sold more than $6.5 million of the Warriors in Pink products. In addition, more than 75,000 Ford employees and thousands of dealership employees are involved in races and supporting the cause in their local communities. In 2010, we launched a month-long initiative on Facebook, donating $1 to Komen for every new fan who joined the Warriors in Pink Facebook page; the initiative generated $81,122 in funding and 81,122 new fans.
- Ford volunteers raised $508,000 for the March of Dimes. Ford CEO Alan Mulally and outgoing UAW president Ron Gettelfinger served as national co-chairs of the organization's annual March for Babies campaign. The combined efforts of the UAW/Ford teams resulted in a 62 percent increase in money raised over the 2009 events. Over the past five years, the UAW/Ford team has raised more than $1.5 million.
- Ford and the UAW continued our longstanding partnership with the American Red Cross to host 210 blood drives at various office and plant locations across the country, collecting more than 7,860 pints of blood in 2010.
- Ford volunteers raised more than $140,360 for the National Multiple Sclerosis Society in 2010.

Ford Volunteer Corps

In addition to the financial contributions made by Ford and Ford Motor Company Fund and Community Services to hundreds of organizations globally, thousands of Ford employees and retirees volunteered to help build stronger communities around the world in 2010.

Volunteerism has been an integral part of Ford Motor Company since its creation in 1903. Today, we help build communities by leveraging the volunteer muscle of Ford employees and retirees around the world.

Even in difficult economic times, we believe it is important to help the communities in which our employees work and live. Volunteer efforts help to build the morale of our employees. There's a strong business case for volunteerism, too: our volunteer projects help to strengthen the name of Ford and enhance purchase consideration for future buyers.

The Ford Volunteer Corps comprises salaried employees and retirees across six continents who work to strengthen their communities. Ford Motor Company offers its U.S. salaried employees two workdays per year to volunteer in the community. Employees form "MODEL Teams" and volunteer to help nonprofit organizations. In 2010, more than 27,000 Ford employees and retirees in 41 countries provided more than 112,000 hours of volunteer time for their communities, or the equivalent of $2.25 million in in-kind corporate contributions.

In 2010, Ford held five "Accelerated Action Days" – concentrated one-day efforts to meet critical needs identified by our agency partners. Each has a special focus, such as families and children or the environment. Ford volunteers are mobilized into MODEL Teams that are matched with local social service agencies requesting their help. These daylong service programs benefit shelters and schools, children's homes, soup kitchens and parks and playgrounds, to name just a few. More than 60 community organizations shared $236,000 in mini-grants to support volunteer projects (i.e., purchasing the paint and lumber needed to perform a project).

Software designed and launched by the Ford Volunteer Corps aligns our volunteer projects with the needs of nonprofit organizations across the U.S. Using this system, employees can go online to sign up for volunteer projects based on their interests and availability. In prior years, our volunteers would essentially tell the nonprofit organizations when we would provide hands-on assistance, without fully assessing when would be the best time for them. Now, our nonprofit partners can tell us when they need help and what manner of assistance they need. In 2010, the software was upgraded to help us expand our volunteer programs to other regions, strengthen data-collection capabilities and enhance the employee user experience.

In 2010, Ford held its fifth annual Global Week of Caring, a weeklong series of volunteer events around the world, coordinated by the Ford Volunteer Corps. During one week in early September, more than 12,600 Ford employees in 41 countries contributed more than 46,000 hours of their time to over 200 volunteer projects.

During the 2010 Global Week of Caring, participants built homes, cleaned nature preserves, wildlife refuges and beaches, and fed the hungry, to name just some of the efforts. Ford retirees participate side-by-side with current employees on these volunteer projects.

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Engagement and Community

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A. Employee Satisfaction, Pulse Survey

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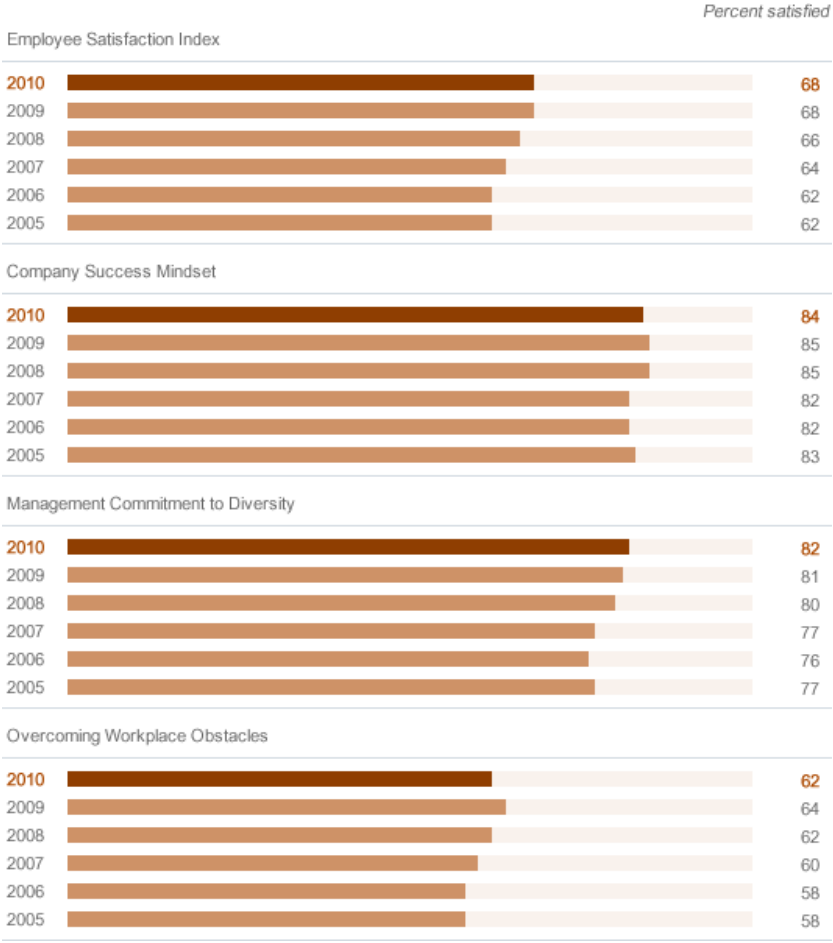
Percent satisfied



Percent satisfied

	2005	2006	2007	2008	2009	2010
Employee Satisfaction Index	62	62	64	66	68	68
Company Success Mindset	83	82	82	85	85	84

Management Commitment to Diversity	77	76	77	80	81	82
Overcoming Workplace Obstacles	58	58	60	62	64	62

Notes to Data | Related Links

In 2006, the Pulse survey was changed to incorporate new dimensions. While there was no change to the number or content of the existing 55 core questions asked on Pulse, they were realigned into eight revised dimensions. These changes were made because the revised dimensions are better focused on current business priorities and can provide a framework for more focused feedback and action planning. In addition, the revised Employee Satisfaction Index can be benchmarked externally; none of the prior 13 dimensions could be benchmarked outside the Company.

In This Report:

- Employee Satisfaction

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B. Overall Dealer Attitude

Relative ranking on a scale of 1–100 percent

	2005	2006	2007	2008	2009	2010
Ford (winter/summer score)	72/70	64/64	64/69	69/68	71/80	83/85
Lincoln Mercury (winter/summer score)	64/64	64/62	64/66	66/64	66/71	71/62
Industry (winter/summer score)	74/74	71/70	70/72	73/72	70/74	75/78

Notes to Data | Analysis | Related Links

Overall dealer attitude is measured by the National Automobile Dealer Association (NADA) Dealer Attitude Survey. Scores are for the summer and winter respectively of the year noted.

Approximately 64 percent of dealers provided feedback through the summer 2010 NADA survey process, which showed notable improvement in many areas – including some of the highest ratings ever from Ford and Lincoln Mercury dealers. With respect to our Ford dealers, we saw significant positive changes in every overall score. Our dealers rated us more favorably in terms of franchise value, policies and procedures, and people. In fact, the Overall Index Ranking shows Ford dealers moved up two spots and are now included in the Top 5 list of automotive brands.

In This Report:

- Dealers

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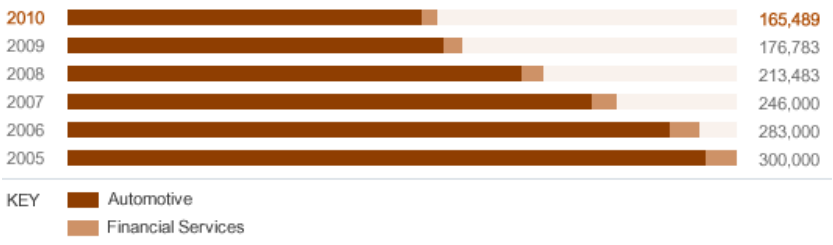
C. Employment by Business Unit

Chart | Table

Average number of people employed



Average number of people employed

	2005	2006	2007	2008	2009	2010
Automotive	286,000	270,000	235,000	203,316	168,610	158,470
Financial Services	14,000	13,000	11,000	10,167	8,173	7,019
Total	300,000	283,000	246,000	213,483	176,783	165,489

Reported to regulatory authorities

Notes to Data | Related Links

These employee numbers do not include dealer personnel; 2009 employee numbers have been adjusted to reflect the new accounting standard on the deconsolidation of many of our variable interest entities.

In This Report:

- Fostering a Capable and Effective Workforce

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D. Total Purchases from Minority-owned Businesses – U.S.

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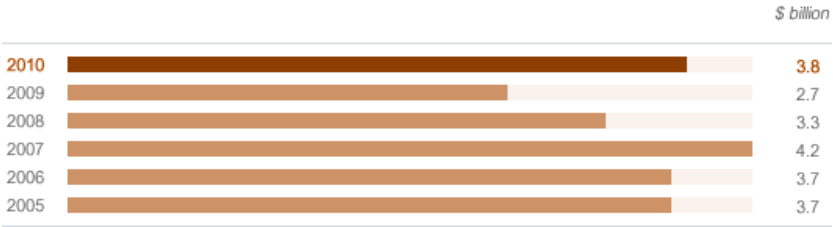

$ billion

2005	2006	2007	2008	2009	2010
3.7	3.7	4.2	3.3	2.7	3.8

Notes to Data | Analysis | Related Links

From 2003 to 2007, purchases from non-minority, women-owned businesses were included within total purchases from all minority suppliers. Beginning in 2008, we provided separate data for women-owned businesses, which accounted in part for the reduced amount of purchases in 2008.

In 2010, Ford purchased $3.8 billion in goods and services from approximately 200 minority-owned suppliers and more than $866 million in goods and services from more than 150 women-owned businesses. Our 2010 results were an improvement over 2009, exceeding our sourcing goals for both minority- and women-owned suppliers.

In This Report:

- Supplier Diversity Development

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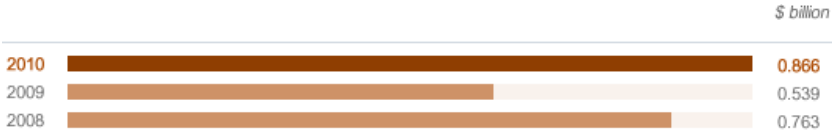
E. Total Purchases from Women-owned Businesses – U.S.

Chart | Table



$ billion

2008	2009	2010
0.763	0.539	0.866

Notes to Data | Analysis | Related Links

From 2003 to 2007, purchases from non-minority, women-owned businesses were included within total purchases from all minority suppliers. In 2008, we began breaking out separate data for purchases from non-minority, women-owned businesses.

In 2010, Ford purchased $3.8 billion in goods and services from approximately 200 minority-owned suppliers and more than $866 million in goods and services from more than 150 women-owned businesses. Our 2010 results were an improvement over 2009, exceeding our sourcing goals for both minority- and women-owned suppliers.

In This Report:

- Supplier Diversity Development

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F. U.S. Employment of Minority-group Personnel and Women at Year-end

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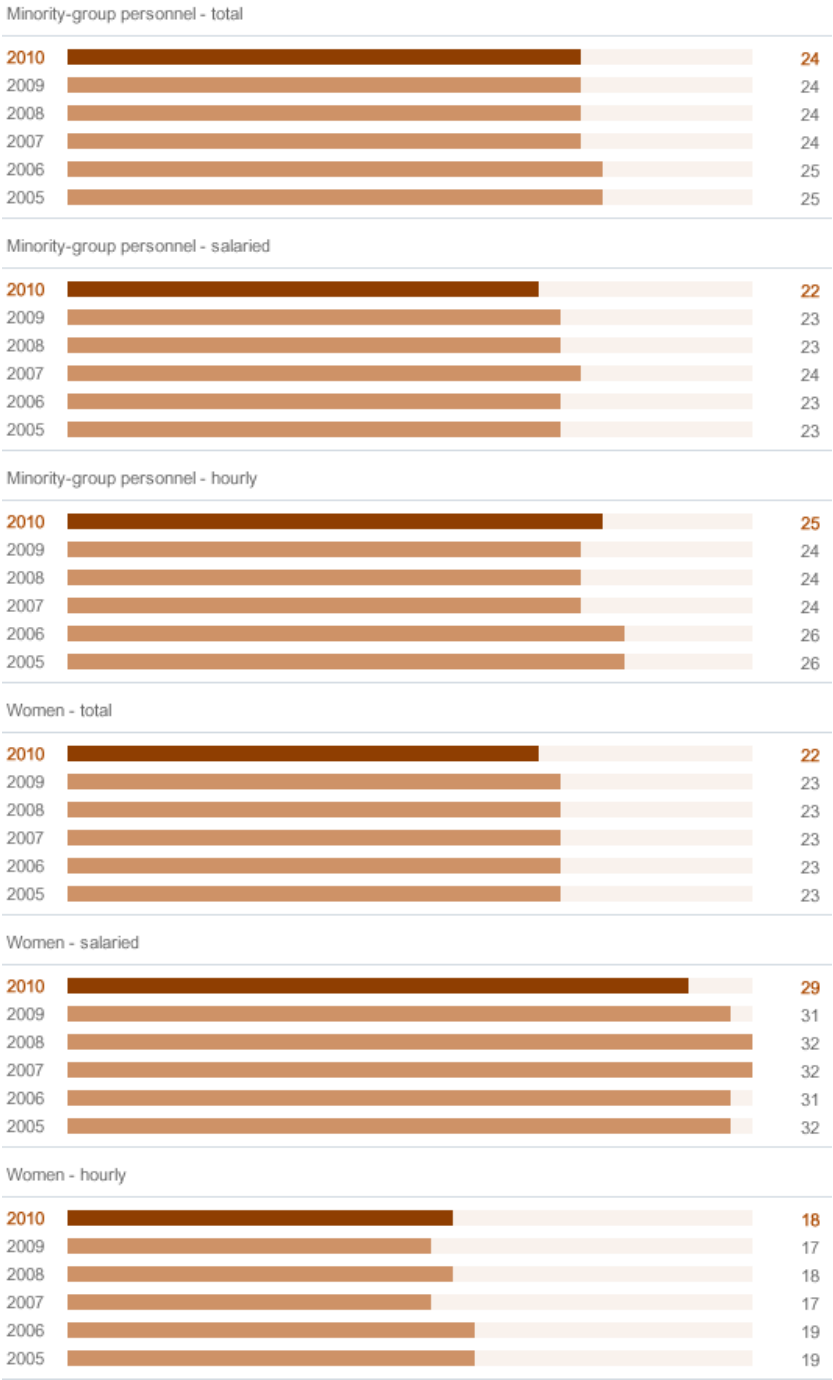
Percent



Percent

	2005	2006	2007	2008	2009	2010
Minority-group personnel – total	25	25	24	24	24	24
Minority-group personnel – salaried	23	23	24	23	23	22
Minority group personnel – hourly	26	26	24	24	24	25
Women – total	23	23	23	23	23	22

Women – salaried	32	31	32	32	31	29
Women – hourly	19	19	17	18	17	18

Reported to regulatory authorities

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To align with the 2003–2007 reported data, 2008 data has been modified to reflect the total Company. Previously, 2008 data reported Ford Automotive data only.

In This Report:

- Diversity and Inclusion in the Workplace

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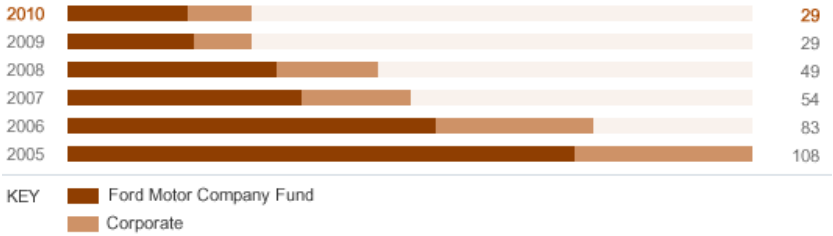
G. Charitable Contributions

Chart | Table

$ million



$ million

	2005	2006	2007	2008	2009	2010
Ford Motor Company Fund	80	58	37	33	20	19
Corporate	28	25	17	16	9	10
Total	**108**	**83**	**54**	**49**	**29**	**29**

Analysis | Related Links

The total amount is the same as 2009, but less than in previous years, reflecting the challenging business conditions that affected the Company's core automotive business in 2010.

In This Report:

- Investing in Communities

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H. Volunteer Corps

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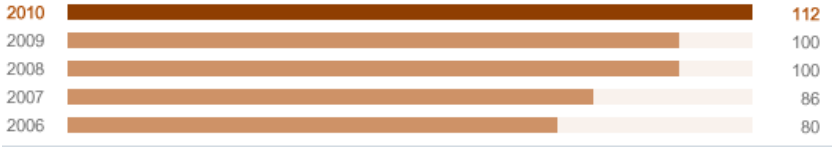
Thousand volunteer hours



Thousand volunteer hours

2006	2007	2008	2009	2010
80	86	100	100	112

Notes to Data | Related Links

The Ford Volunteer Corps was founded in 2005, and 2006 is the first year data are available. However, volunteerism and community service have long been a part of Ford's culture, and these efforts were

formalized in 1997 with the creation of the 16-hour Community Service Program.

In This Report:

- Ford Volunteer Corps

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I. Working Conditions Assessment Status for Supply Chain

Working Conditions Assessments (as of 12/31/10)	Americas	Asia Pacific and Africa	Europe	Global Total
Average violations per assessment	11.4	10.4	11.5	10.8
Assessments completed to date	250	438	63	751
Follow-up assessments completed to date (third party and/or internal)	227	408	67	702
Working Conditions Training (as of 12/31/10)	**Americas**	**Asia Pacific and Africa**	**Europe**	**Global Total**
Training sessions completed to date	54	42	11	107
Total number of attending companies (i.e., individual GSDB code sites or # suppliers attended)	685	708	262	1,655
Total number of trained managers	1,192	716	241	2,149

Working Conditions Training: (Scope of Impact: Supplier-Submitted Data as of 12/31/10)	Global Total
Training cascade to management, individuals trained	18,139
Training cascade to workforce, individuals trained	318,593
Communication to suppliers, number of sub-tier companies	56,284

Related Links

In This Report:

- Human Rights in the Supply Chain: Ford's Global Working Conditions Program

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Workplace Safety

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A. Global Lost-time Case Rate (per 100 Employees)

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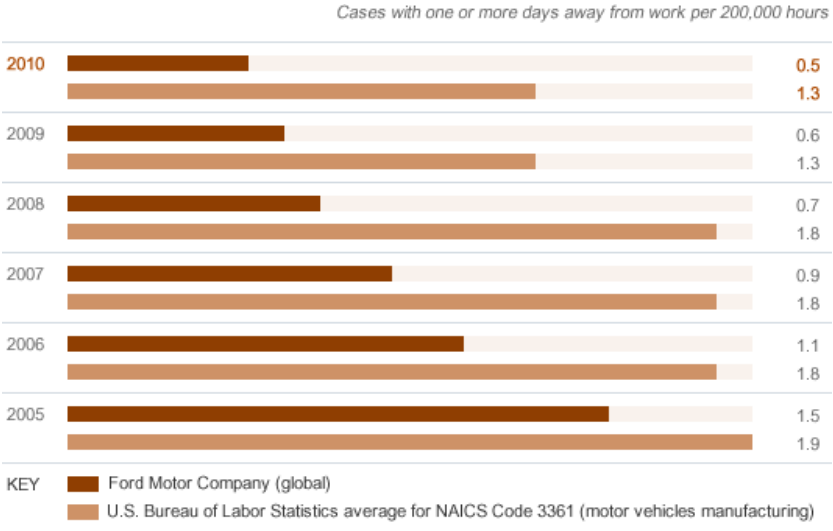

Cases with one or more days away from work per 200,000 hours

	2005	2006	2007	2008	2009	2010
Ford Motor Company (global)	1.5	1.1	0.9	0.7	0.6	0.5
U.S. Bureau of Labor Statistics average for NAICS Code 3361 (motor vehicles manufacturing)	1.9	1.8	1.8	1.8	1.3	1.3

Related Links

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- Workplace Health and Safety

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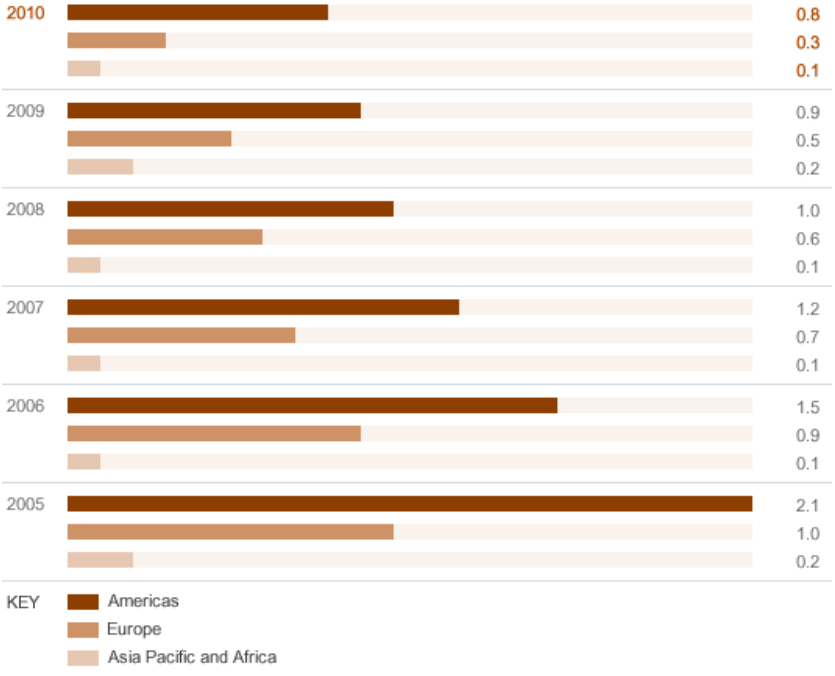
B. Lost-time Case Rate by Region (per 100 Employees)

Chart | Table

Cases with one or more days away from work per 200,000 hours



Cases with one or more days away from work per 200,000 hours

	2005	2006	2007	2008	2009	2010
Americas	2.1	1.5	1.2	1.0	0.9	0.8
Europe	1.0	0.9	0.7	0.6	0.5	0.3
Asia Pacific and Africa	0.2	0.1	0.1	0.1	0.2	0.1

Reported to regulatory authorities

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European data were amended for 2005.

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- Workplace Health and Safety

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C. Workplace Health and Safety Violations

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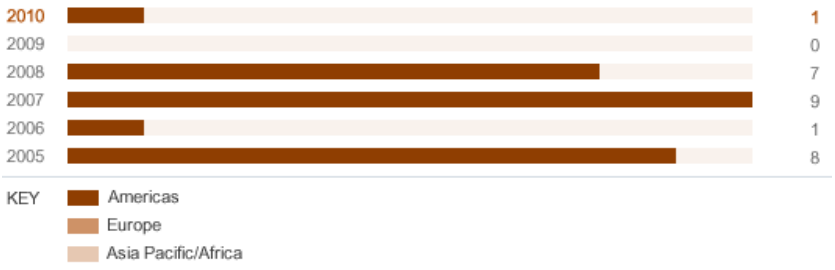
Number of violations



Number of violations

	2005	2006	2007	2008	2009	2010
Americas	8	1	9	7	0	1
Europe	0	0	0	0	0	0
Asia Pacific/Africa	0	0	0	0	0	0
Total	8	1	9	7	0	1

Related Links

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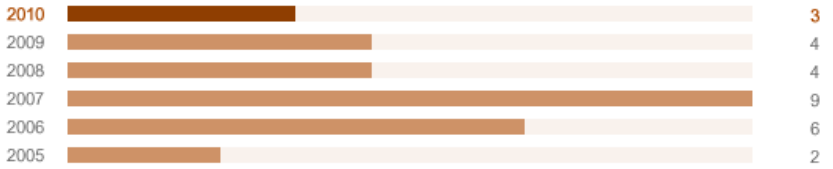
D. Global Fatalities

Chart | Table

Number of fatalities



Number of fatalities

2005	2006	2007	2008	2009	2010
2	6	9	4	4	3

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Vehicle Safety

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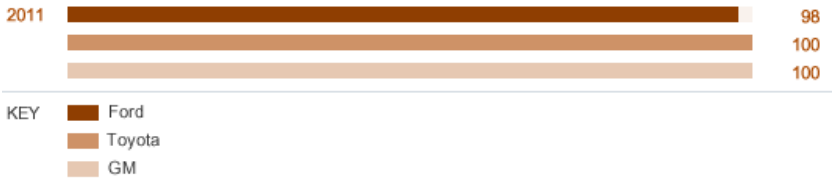
A. Percent of Nameplates Achieving 3-star or Better in Rollover NCAP

Chart | Table

Data are for the model year noted. *Percent*



Data are for the model year noted.

Percent

	2011
Ford	98
Toyota	100
GM	100

Third party rated (NHTSA)

Notes to Data | Related Links

The National Highway Traffic Safety Administration (NHTSA) has significantly changed its New Car Assessment Program (NCAP), such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. For example, NHTSA has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal and side impact tests; and made significant changes to the injury criteria. For detailed information on the new NCAP system, see www.safercar.gov, and in particular http://www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf.

In This Report:

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B. Percent of Nameplates Achieving 4-star/4-star Frontal NCAP or Better

Chart | Table

Data are for the model year noted. *Percent*

Data are for the model year noted.

Percent

	2011
Ford	100
Toyota	100
GM	100

Third party rated (NHTSA)

Notes to Data | Related Links

The National Highway Traffic Safety Administration (NHTSA) has significantly changed its New Car Assessment Program (NCAP), such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. For example, NHTSA has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal and side impact tests; and made significant changes to the injury criteria. For detailed information on the new NCAP system, see www.safercar.gov, and in particular http://www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf.

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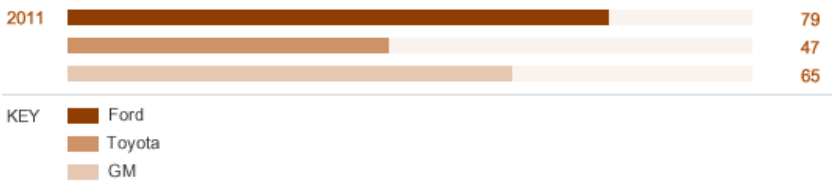
C. Percent of Nameplates Achieving 5-star/5-star Frontal NCAP

Chart | Table

Data are for the model year noted. *Percent*



Data are for the model year noted.

Percent

	2011
Ford	79
Toyota	47
GM	65

Third party rated (NHTSA)

Notes to Data | Related Links

The National Highway Traffic Safety Administration (NHTSA) has significantly changed its New Car Assessment Program (NCAP), such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. For example, NHTSA has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal and side impact tests; and made significant changes to the injury criteria. For detailed information on the new NCAP system, see www.safercar.gov, and in particular http://www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf.

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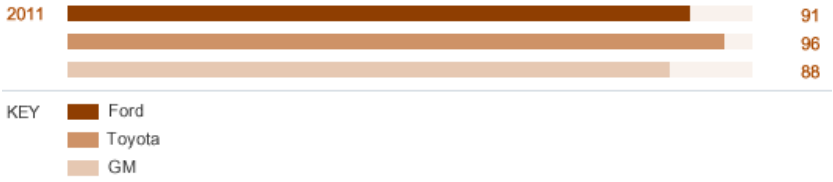
D. Percent of Nameplates Achieving 4-star/4-star or Better in LINCAP

Chart | Table

Data are for the model year noted. *Percent*



Data are for the model year noted.

Percent

	2011
Ford	91
Toyota	96
GM	88

Third party rated (NHTSA)

Notes to Data | Related Links

The National Highway Traffic Safety Administration (NHTSA) has significantly changed its New Car Assessment Program (NCAP), such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. For example, NHTSA has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal and side impact tests; and made significant changes to the injury criteria. For detailed information on the new NCAP system, see www.safercar.gov, and in particular http://www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf.

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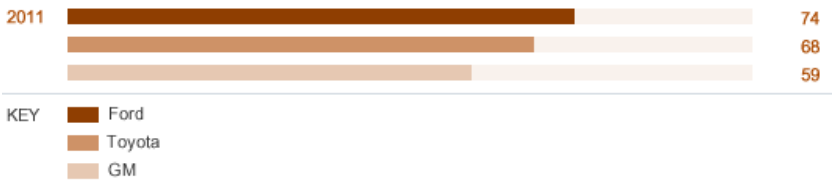
E. Percent of Nameplates Achieving 5-star/5-star or Better LINCAP

Chart | Table

Data are for the model year noted. *Percent*



Data are for the model year noted.

Percent

	2011
Ford	74
Toyota	68

GM	59

Third party rated (NHTSA)

Notes to Data | Related Links

The National Highway Traffic Safety Administration (NHTSA) has significantly changed its New Car Assessment Program (NCAP), such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. For example, NHTSA has added a "rigid pole impact test" to assess side-impact safety (in addition to an existing side-impact test); implemented the use of a smaller dummy in the passenger seat in frontal and side impact tests; and made significant changes to the injury criteria. For detailed information on the new NCAP system, see www.safercar.gov, and in particular http://www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf.

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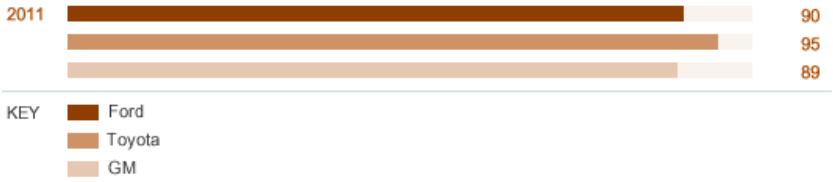
F. IIHS Frontal Offset – Percent of Nameplates Achieving "Good" Rating

Chart | Table

Data are for the model year noted. *Percent*



Data are for the model year noted.

Percent

	2011
Ford	90
Toyota	95
GM	89

Third party rated (IIHS)

Notes to Data | Related Links

For detailed information on the IIHS's testing procedures, see http://www.iihs.org/ratings/.

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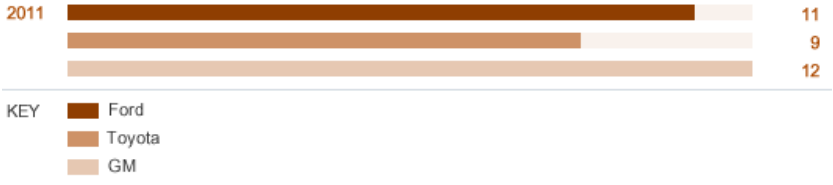
G. Number of IIHS Top Safety Picks by Manufacturer

Chart | Table

Data are for the model year noted. *Number of vehicles*



Data are for the model year noted.

Number of vehicles

	2011
Ford	11
Toyota	9
GM	12

Third party rated (IIHS)

Notes to Data | Related Links

The Insurance Institute for Highway Safety (IIHS) has changed its criteria for Top Safety Picks such that the results for 2011 model year vehicles cannot be accurately compared to previous model years. To earn a Top Safety Pick, a vehicle must now receive a "good" rating for a new roof strength test, in addition to "good" ratings in front, side and head restraint assessments. For detailed information on the IIHS's testing procedures, see http://www.iihs.org/ratings/.

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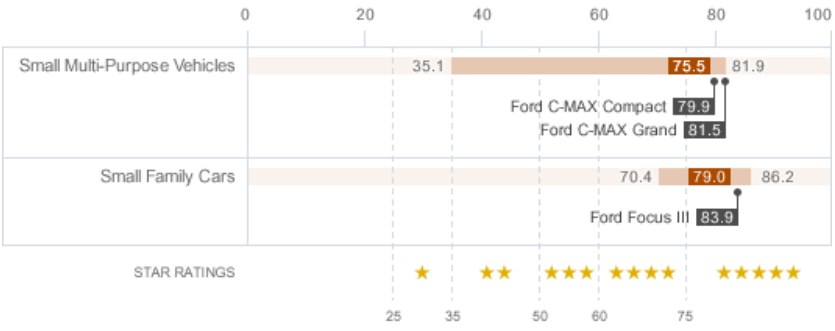
H. Euro NCAP Results

Chart | Table

Overall percentage



Overall percentage

	Industry Low	Industry High	Industry Average	Ford results
Small Multi-Purpose Vehicles	35.1	81.9	75.5	Ford C-MAX Compact: 79.9 Ford C-MAX Grand: 81.5
Small Family Cars	70.4	86.2	79.0	Ford Focus III: 83.9

Third party rated (Euro NCAP)

Notes to Data | Related Links

EuroNCAP has developed more-stringent requirements, which went into effect in 2009. EuroNCAP combines all assessed criteria to an overall "fulfillment percentage" ranging from 0 percent to 100 percent. Star ratings are dependent on the fulfillment percentage. Currently a 75 percent or higher is required for a 5-star rating. For additional information, go to www.euroncap.com.

Three completely new Ford vehicles have been launched on the European market since the ratings were revised in 2009. The new Ford Focus received two "EuroNCAP Advanced" rewards for including Lane-Keeping Aid and Active City Stop technologies.

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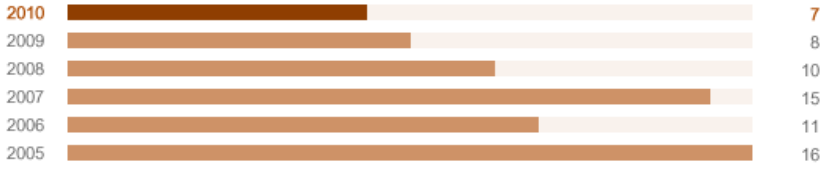
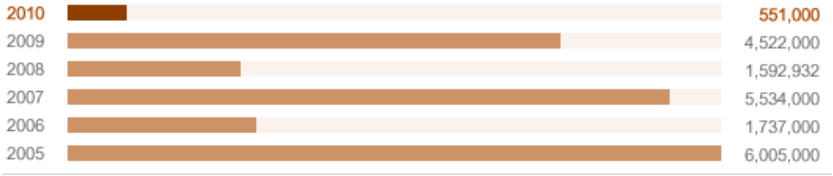
I. U.S. Safety Recalls

Chart | Table

Number of safety recalls



Number of units



	2005	2006	2007	2008	2009	2010
Number of safety recalls	16	11	15	10	8	7
Number of units	6,005,000	1,737,000	5,534,000	1,592,932	4,522,000	551,000

Reported to regulatory authorities (NHTSA)

Notes to Data | Related Links

All but 12,000 of the 4.5 million vehicles recalled in 2009 were older models (1992–2003) that were equipped with faulty Texas Instruments speed control deactivation switches. Although the data show the majority of the vehicles equipped with these switches do not pose a significant safety risk, we recalled them to reassure customers and eliminate any future concerns.

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Case Study: Ford and Juvenile Diabetes

Each year, approximately 30,000 people in the U.S. are diagnosed with Type 1 diabetes. That's 80 a day. Despite advances made in science, Type 1 has no cure.

People living with the disease must take insulin either through injection or a pump and test their blood many times throughout the day. While insulin can help manage the disease, it does not prevent devastating complications such as kidney failure, blindness, nerve damage, amputations, heart attack and stroke, as well as complications during pregnancies.

For more than 25 years, Ford has been involved in helping to find a cure through our support of the Juvenile Diabetes Research Foundation (JDRF). In 1983, Ford hosted a JDRF fundraising walk in Dearborn. In 1998, the grassroots employee initiative now known as the Ford Global Walk Team began, with Edsel B. Ford II as the corporate team chair. The event has grown dramatically over the last decade. Since 2002, Ford has been the JDRF's largest corporate – and only international – sponsor.

Ford volunteers donate significant time to leverage the Company's financial support of the JDRF, participating in walks and holding book sales, silent auctions and raffles to raise money for diabetes research. Together with support from national partner companies, they raised more than $3.2 million in 2010, bringing the total amount raised by Ford volunteers to $35 million since 1998.

Ford is proud to have been presented with the JDRF President's Award for nine consecutive years, earning recognition as the Top Corporate Sponsor in the world.

The JDRF is the leading charitable funder and advocate for juvenile diabetes research. Since its founding in 1970, the JDRF has awarded more than $1.5 billion to diabetes research, including more than $107 million in fiscal year 2010.

Toolbox

Print report

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Contact

Preparing this report is a valuable opportunity for us to assess and improve upon our economic, environmental and social progress and performance.

To continue to do so, we need your feedback.

Write:
Thomas A. Niemann
Ford Motor Company
One American Road
Dearborn, MI 48126
U.S.A.

Email:
sustaina@ford.com

For customer service issues or complaints please call 800-392-3673 in the US, 1-800-565-3673(FORD) in Canada or go to www.customersaskford.com.

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Print report

Downloads

Brand and Country-Level Reports

Brazil GHG Accounting and Reporting Program – 2008 Report
(English version, pdf, 619kb)
(Portguese version, pdf, 621kb)

Changan Ford Mazda Automobile Co., Ltd – Chongqing, China – 2009 GHG Report
(pdf, 1.02Mb)

Changan Ford Mazda Automobile Co., Ltd – Nanjing Assembly Plant – 2009 GHG Report
(pdf, 691kb)

Changan Ford Mazda Engine Co., Ltd – 2009 GHG Report
(pdf, 611kb)

Jiangling Motors Co., Ltd – 2009 GHG Report
(pdf, 1.47Mb)

Past Reports

Ford Mexico Greenhouse Gas Report
(pdf, 460kb)

Ford Philippines 2007 Greenhouse Gas Report
(pdf, 316kb)

Changan Ford Mazda Automobile Co., Ltd – Chongqing, China – 2007 GHG Report
(pdf, 678kb)

Changan Ford Mazda Automobile Co., Ltd – Chongqing, China – 2008 GHG Report
(pdf, 977kb)

Changan Ford Mazda Automobile Co., Ltd – Nanjing Assembly Plant – 2008 GHG Report
(pdf, 664kb)

Changan Ford Mazda Engine Co., Ltd – 2008 GHG Report
(pdf, 610kb)

Jiangling Motors Co., Ltd – 2008 GHG Report
(pdf, 1.02Mb)

Ford Sustainability Report 2009/10 Feedback

Feedback from SAM research
(pdf, 73kb)

Ford Response to Carbon Discolsure Project
(pdf, 726kb)

Financial Reports

Annual Report 2010
(pdf, 7.25Mb)

Form 10-K
(pdf, 1Mb)

Form 8-K
(pdf, 34kb)

Notice of 2011 Annual Meeting of Shareholders and Proxy Statement
(pdf, 466kb)

Human Rights

Cuautitlan Human Rights Assessment
(pdf, 49kb)

Jiangling Motors Corporation (JMC) Human Rights Assessment
(pdf, 61kb)

Valencia Human Rights Assessment (July 28, 2010)
(pdf, 62kb)

Valencia Human Rights Assessment (June 24, 2009)

(pdf, 40kb)

Santa Rosa Human Rights Assessment
(pdf, 61kb)

Camacari Human Rights Assessment
(pdf, 111kb)

Ford Motor Company of Southern Africa Human Rights Assessment
(pdf, 85kb)

Vsevolozshk Human Rights Assessment
(pdf, 85kb)

Chicago Human Rights Assessment
(pdf, 79kb)

Hermosillo Human Rights Assessment
(pdf, 152kb)

Michigan Human Rights Assessment
(pdf, 106kb)

Broad Meadows Human Rights Assessment
(pdf, 133kb)

Lio Ho Human Rights Assessment
(pdf, 103kb)

Pacheco Human Rights Assessment
(pdf, 1.45Mb)

Changan Human Rights Assessment (October 10, 2006)
(pdf, 56kb)

Changan Human Rights Assessment (June 10, 2009)
(pdf, 54kb)

India Human Rights Assessment
(pdf, 41kb)

Otosan Human Rights Assessment
(pdf, 63kb)

Vietnam Human Rights Assessment
(pdf, 73kb)

Oakville Human Rights Assessment
(pdf, 37kb)

Craiova Human Rights Assessment
(pdf, 59kb)

Louisville Human Rights Assessment
(pdf, 68kb)

Pleukdang Human Rights Assessment
(pdf, 80kb)

Troeller Human Rights Assessment
(pdf, 78kb)

São Bernardo Human Rights Assessment
(pdf, 76kb)

Code of Basic Working Conditions
(pdf, 14kb)

Product Sustainability Index

Ford of Europe's Product Sustainability Index, OECD Workshop
(pdf, 259kb)

Product Sustainability Index Report, Ford S-MAX and Ford Galaxy
(pdf, 507kb)

Product Sustainability Index Fact Sheet, Ford Fiesta
(pdf, 166kb)

Product Sustainability Index Fact Sheet, Ford Kuga
(pdf, 128kb)

Product Sustainability Index Fact Sheet, Ford Mondeo
(pdf, 105kb)

Managing Sustainable Product Development
(pdf, 39kb)

Miscellaneous

Ford Rouge Center Brochure
(pdf, 11.52Mb)

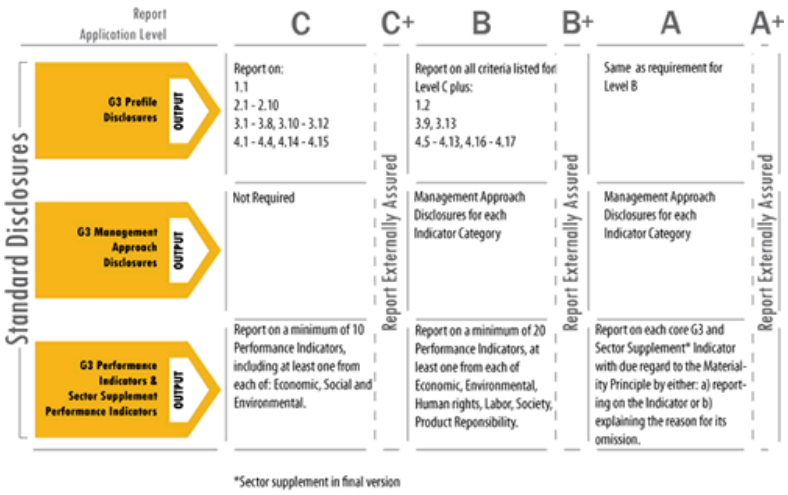
Chicago Climate Exchange certificate
(pdf, 150kb)

Technology and Innovation
(HTML format)

Climate Change Emissions and Stabilization, Sustainability Report 2006/07
(pdf, 117kb)

GRI Index

This report is aligned with the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines released in October 2006, at an application level of A. To locate the elements and information contained within the guidelines, use the index below. For a detailed explanation of the indicators, visit the GRI website.



Related Links

External Websites:

- Global Reporting Initiative

Key

- Yes, this indicator is reported on
- This indicator is partially reported on
- No, this indicator is not reported on

Additional indicators are shown in **bold**

Part I: Profile Disclosures

1. STRATEGY AND ANALYSIS

Profile Disclosure and Description		Status	Report Links	Notes
1.1	Statement from the most senior decisionmaker of the organization (e.g., CEO, chair or equivalent senior position) about the relevance of sustainability to the organization and its strategy.		Letter from William Clay Ford, Jr. Letter from Alan Mulally	
1.2	Description of key impacts, risks and opportunities.		Letter from William Clay Ford, Jr. Letter from Alan Mulally Letter from Sue Cischke Our Value Chain and Its Impacts Material Issues Performance Summary Ford's Goals, Commitments and Status Sustainability Governance and Integration	

2. ORGANIZATIONAL PROFILE

Profile Disclosure and Description		Status	Report Links	Notes
2.1	Name of the organization.		Our Operations	
2.2	Primary brands, products and/or services.		Products and Services	
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries and joint ventures.		Products and Services Manufacturing	
2.4	Location of organization's headquarters.		Manufacturing	
2.5	Number of countries where the organization operates, and names of countries either with major operations or that are specifically relevant to the sustainability issues covered in the report.		Manufacturing	
2.6	Nature of ownership and legal form.		Shareholder Services	
2.7	Markets served (including geographic breakdown, sectors served and types of customers/beneficiaries).		Products and Services Manufacturing Dealers	More detailed information on our products and services is reported on in our annual financial reporting, including our 10-K and Annual Report.

2.8	Scale of the reporting organization, including: number of employees; net sales (for private sector organizations) or net revenues (for public sector organizations); total capitalization broken down in terms of debt and equity (for private sector organizations); and quantity of products or services provided.		• Our Operations • Manufacturing • Economy Data • Products and Services	Information on our scale is reported on in our annual financial reporting, including our 10-K and Annual Report.
2.9	Significant changes during the reporting period regarding size, structure, or ownership including: the location of, or changes in operations, including facility openings, closings, and expansions; and changes in the share capital structure and other capital formation, maintenance and alteration operations (for private sector organizations).		• Restructuring Our Business • Restructuring Progress	
2.10	Awards received in the reporting period.		• 2010 Awards and Recognition • Quality Awards and Ratings • Diversity and Inclusion Awards	

3. REPORT PARAMETERS

Report Profile

Profile Disclosure and Description		Status	Report Links	Notes
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.		• Overview	
3.2	Date of most recent previous report (if any).		• Overview	
3.3	Reporting cycle (annual, biennial, etc.).		• Overview	
3.4	Contact point for questions regarding the report or its contents.		• Contact	

Report Scope and Boundary

Profile Disclosure and Description		Status	Report Links	Notes
3.5	Process for defining report content, including: determining materiality; prioritizing topics within the report; and identifying stakeholders the organization expects to use the report.		• Materiality Analysis • Who Are Our Stakeholders?	
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.		• Overview	
3.7	State any specific limitations on the scope or boundary of the report.		• Overview	
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations and other entities that can significantly affect comparability from period to period and/or between organizations.		• Performance Summary • Economy Data • Environment Data • Society Data	
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.		• Performance Summary • Economy Data • Environment Data • Society Data	
3.10	Explanation of the effect of any re-statements of information provided in earlier reports and the reasons for such re-statement (e.g., mergers/acquisitions, change of the base years/periods, nature of business, measurement methods).		• Performance Summary • Economy Data • Environment Data • Society Data	
3.11	Significant changes from previous reporting periods in the scope, boundary or measurement methods applied in the report.		• Overview	

GRI Content Index

Profile Disclosure and Description		Status	Report Links	Notes
3.12	Table identifying the location of the Standard Disclosures in the report.		• GRI Index	

Assurance

Profile Disclosure and Description		Status	Report Links	Notes
3.13	Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).		• Assurance	

4. GOVERNANCE, COMMITMENTS, AND ENGAGEMENT

Governance

Profile Disclosure and Description		Status	Report Links	Notes
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.		• Corporate Governance – Board of Directors • Sustainability Governance and Integration • Governance and Management Structures	
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).		• Board of Directors	
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.		• Corporate Governance – Board of Directors	
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.		• Corporate Governance – Board of Directors • Who Are Our Stakeholders?	
4.5	Linkage between compensation for members of the highest governance body, senior managers and executives (including departure arrangements), and the organization's performance (including social and environmental performance).		• Sustainability Governance and Integration	
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.		• Corporate Governance – Board of Directors • Code of Business Conduct and Ethics	
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.		• Corporate Governance – Board of Directors • Who Are Our Stakeholders?	
4.8	Internally developed statements of mission or values, codes of conduct and principles relevant to economic, environmental and social performance and the status of their implementation. Explain the degree to which these: are applied across the organization in different regions and departments/units; and relate to internationally agreed standards.		• Policy Letters and Directives • Ethical Business Practices • Sustainability Governance and Integration	
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct and principles.		• Corporate Governance – Board of Directors • Who Are Our Stakeholders?	
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental and social performance.		• Corporate Governance – Board of Directors	

Commitments to External Initiatives

Profile Disclosure and Description		Status	Report Links	Notes
4.11	Explanation of whether and how the precautionary approach or principles is addressed by the organization. Article 15 of the Rio Principles introduced the precautionary approach. A response to 4.11 could address the organization's approach to risk management in operational planning or the development and introduction of new products.		• Environment	
4.12	Externally developed economic, environmental and social charters, principles or other initiatives to which the organization subscribes or endorses.		• Climate Change Policy and Partnerships • Collaborating with Utilities and Municipalities • Policy Letters and Directives • Water Strategy Approach • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Collaboration Within the Automotive Industry • Conflict Minerals • Supplier Environmental Management • Collaborative Efforts • Public Policy Positions	
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: has positions in governance bodies, participates in projects or committees; provides substantive funding beyond routine membership dues; or views membership as strategic.		• Climate Change Policy and Partnerships • Collaboration Within the Automotive Industry • Collaborative Efforts • Ford's Green Partnerships with Federal and State Governments • Participation in the Policy-Making Process • Water Strategy Approach	

Stakeholder Engagement

Profile Disclosure and Description		Status	Report Links	Notes
4.14	List of stakeholder groups engaged by the organization. Examples of stakeholder groups are: communities; civil society; customers; shareholders and providers of capital; suppliers; and employees, other workers and their trade unions.		Who Are Our Stakeholders?	
4.15	Basis for identification and selection of stakeholders with whom to engage.		Who Are Our Stakeholders?	
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.		Who Are Our Stakeholders? Engaging with These Stakeholders Employees Customers Dealers Suppliers Investors Communities	
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.		Who Are Our Stakeholders? Engaging with These Stakeholders Materiality Analysis	

Part II: Disclosures on Management Approach

ECONOMIC

Aspects	Status	Report Links	Notes
Economic performance		Corporate Governance Policies Ford's Goals, Commitments and Status Economy	
Market presence		Ford's Goals, Commitments and Status Delivering New Products Ford Future Competitiveness	
Indirect economic impacts		Communities Investing in Communities	

ENVIRONMENTAL

Aspects	Status	Report Links	Notes
Materials		Ford's Goals, Commitments and Status Sustainable Materials Sustainability Governance and Integration Product Development	
Energy		Ford's Goals, Commitments and Status Sustainability Governance and Integration Environment Progress and Goals Manufacturing	
Water		Ford's Goals, Commitments and Status Sustainability Governance and Integration Manufacturing Water Strategy Approach	
Biodiversity		Sustainability Governance and Integration Land Use and Biodiversity	
Emissions, effluents and waste		Ford's Goals, Commitments and Status Non-CO_2, Facility-Related Emissions Waste Management	
Products and services		Ford's Goals, Commitments and Status Product Development	
Compliance		Sustainability Governance and Integration Compliance	
Transport		Sustainability Governance and Integration Logistics	
Overall		Ford's Goals, Commitments and Status Sustainability Governance and Integration Manufacturing Environment Progress and Goals	

SOCIAL: LABOR PRACTICES AND DECENT WORK

Aspects	Status	Report Links	Notes
Employment		• Sustainability Governance and Integration • Employees	
Labor/management relations		• Sustainability Governance and Integration • Fostering a Capable and Effective Workforce	
Occupational health and safety		• Sustainability Governance and Integration • Ford's Goals, Commitments and Status • Workplace Health and Safety • Workplace Health and Safety: Governance	
Training and education		• Sustainability Governance and Integration • Fostering a Capable and Effective Workforce	
Diversity and equal opportunity		• Sustainability Governance and Integration • Supporting a Great Place to Work	

SOCIAL: HUMAN RIGHTS

Aspects	Status	Report Links	Notes
Investment and procurement practices		• Sustainability Governance and Integration • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Sustainable Raw Materials • Setting Expectations for Our Suppliers • Ethical Business Practices	
Non-discrimination		• Ford's Goals, Commitments and Status • Sustainability Governance and Integration • Supplier Diversity Development • Supporting a Great Place to Work • Ethical Business Practices • Code of Basic Working Conditions	
Freedom of association and collective bargaining		• Ford's Goals, Commitments and Status • Sustainability Governance and Integration • Fostering a Capable and Effective Workforce • Ethical Business Practices • Code of Basic Working Conditions	
Child labor		• Ford's Goals, Commitments and Status • Sustainability Governance and Integration • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Setting Expectations for Our Suppliers • Ethical Business Practices	
Forced and compulsory labor		• Ford's Goals, Commitments and Status • Sustainability Governance and Integration • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Setting Expectations for Our Suppliers • Code of Basic Working Conditions	
Security practices		• Sustainability Governance and Integration • Ethical Business Practices	
Indigenous rights		• Sustainability Governance and Integration • Communities • Ethical Business Practices	

SOCIAL: SOCIETY

Aspects	Status	Report Links	Notes
Community		• Sustainability Governance and Integration • Communities • Engaging with Communities	
Corruption		• Sustainability Governance and Integration • Ethical Business Practices	
Public policy		• Sustainability Governance and Integration • Policy Letters and Directives	
Anti-competitive behavior		• Sustainability Governance and Integration • Ethical Business Practices	
Compliance		• Sustainability Governance and Integration • Ethical Business Practices	

SOCIAL: PRODUCT RESPONSIBILITY

Aspects	Status	Report Links	Notes
Customer health and safety		• Ford's Goals, Commitments and Status • Sustainability Governance and Integration • How We Manage Vehicle Safety • Society Data: Vehicle Safety	
Product and service labelling		• Sustainability Governance and Integration • Ethical Business Practices	
Marketing communications		• Sustainability Governance and Integration • Ethical Business Practices • Building Customer Awareness	
Customer privacy		• Sustainability Governance and Integration • Ethical Business Practices	
Compliance		• Sustainability Governance and Integration • Building Customer Awareness	

Part III: Performance Indicators

ECONOMIC

Economic Performance

Performance Indicator and Description		Status	Report Links	Notes
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings and payments to capital providers and governments.		• Economy Data • Society Data	Information related to operating costs is referenced as "automotive costs of goods sold" in the Company's Annual Report on Form 10-K. Information related to payments to providers of capital is referenced as "cash paid interest expenses" and "stockholder dividends" in the Company's Annual Report on Form 10-K. Ford does not report on employee compensation and does not intend to do so in the future because the information is proprietary.
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.		• Climate Change Risks and Opportunities	
EC3	Coverage of the organization's defined benefit plan obligations.		• Fostering a Capable and Effective Workforce	
EC4	Significant financial assistance received from government.		• Ford's Green Partnerships with Federal and State Governments	

Market Presence

Performance Indicator and Description		Status	Report Links	Notes
EC5	Range of ratios of standard entry-level wage compared to local minimum wage at significant locations of operation.			
EC6	Policy, practices, and proportion of spending on locally based suppliers at significant locations of operation.			Ford uses local suppliers everywhere we operate, and in several localities in which we operate, suppliers set up operations nearby to support Ford operations. In addition, the local economic development model described is aligned with our Supplier Diversity Development initiatives. Attributes of our Supplier Diversity Development initiatives include: economic development rationale, local employment opportunities and workforce development, supplier development and a considerable financial history of purchases from minority- and women-owned companies. These initiatives operate exclusively in the U.S. and are driven in part by compliance with federal requirements. Globally, a mandated Black Economic Empowerment Program also drives supplier development and local employment for Ford in South Africa. Ford does not track the proportion of spending on locally based suppliers at significant locations of operation because local sourcing has not appeared as an important issue in our materiality analyses.
EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.			Ford doesn't track this information, because our materiality analysis determined that the procedures used for local hiring and proportion of senior management hired from the local community is not a material issue. However, Ford's recruiting initiatives are designed to be inclusive and hire from all segments of the diverse populations and communities in which we live and work. Opportunities for employment and advancement are available on a non-discriminatory basis – without regard to race, color, religion, age, gender, sexual orientation, national origin, handicap or veteran status. We take affirmative action in accordance with the law to have minorities and women represented appropriately

				throughout the workforce and to provide qualified handicapped persons, disabled veterans and veterans of the Vietnam era opportunity for employment and advancement.

Indirect Economic Impacts

Performance Indicator and Description		Status	Report Links	Notes
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind or pro bono engagement.		• Society Data: Engagement and Community • Investing in Communities	
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.		• Economy Progress • Understanding Changing Consumer Needs: Careful Consumption • Investing in Communities	

ENVIRONMENTAL

Materials

Performance Indicator and Description		Status	Report Links	Notes
EN1	Materials used by weight or volume.		• Sustainable Materials	In our materiality analysis, the use of sustainable materials appears as a significant issue, and we provide extensive coverage of that issue. However, accounting for the amount of every material used has not been identified as a material issue for internal or external stakeholders.
EN2	Percentage of materials used that are recycled input materials.		• Sustainable Materials	We report on our use of recycled materials and our efforts to increase recycled content in our vehicles. However, accounting for the exact percentage of recycled materials used in all of our vehicles has not been identified as a material issue for internal or external stakeholders.

Energy

Performance Indicator and Description		Status	Report Links	Notes
EN3	Direct energy consumption by primary energy source.		• Environment Data: Operational Energy Use and CO_2 Emissions	
EN4	Indirect energy consumption by primary source.		• Environment Data: Operational Energy Use and CO_2 Emissions	
EN5	Energy saved due to conservation and efficiency improvements.		• Environment Data: Operational Energy Use and CO_2 Emissions • Environment Progress and Goals	
EN6	Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives.		• Improving Fuel Economy • Migration to Alternative Fuels and Powertrains • Ford's Green Partnerships with Federal and State Governments • Electrification: A Closer Look • Lifecycle Vehicle CO_2 Emissions	
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.		• Environment Data: Operational Energy Use and CO_2 Emissions • Climate Change Progress and Performance	

Water

Performance Indicator and Description		Status	Report Links	Notes
EN8	Total water withdrawal by source.		• Environment Data: Water Use	
EN9	Water sources significantly affected by withdrawal of water.		• Water Use	
EN10	Percentage and total volume of water recycled and reused.		• Water Use	

Biodiversity

Performance Indicator and Description		Status	Report Links	Notes
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		• Land Use and Biodiversity	We believe that protecting biodiversity is an important issue, and we report on our efforts to increase and protect wildlife habitat. However, this issue was not identified as material in our analysis because Ford facilities, once established, do not routinely disturb land, wildlife or biodiversity. In siting new facilities, we conduct a due diligence process and an environmental impact assessment, both of which consider potential impacts on biodiversity.

EN12	Descriptions of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.		• Land Use and Biodiversity
EN13	Habitats protected or restored.		• Land Use and Biodiversity
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.		• Land Use and Biodiversity
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.		

Emissions, Effluent, and Waste

Performance Indicator and Description		Status	Report Links	Notes
EN16	Total direct and indirect greenhouse gas emissions by weight.		• Environment Data: Operational Energy Use and CO_2 Emissions	
EN17	Other relevant indirect greenhouse gas emissions by weight.		• Environment Data: Fuel Economy and CO_2 Emissions	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.		• Our Strategy: Blueprint for Sustainability • Ford's Sustainable Technologies and Alternative Fuels Plan • Electrification: A Closer Look	
EN19	Emissions of ozone-depleting substances by weight.		• Environment Data: Emissions (VOC and Other) • Non-CO_2, Facility-Related Emissions	
EN20	NOx, SOx and other significant air emissions by type and weight.		• Environment Data: Tailpipe Emissions • Environment Data: Emissions (VOC and Other)	
EN21	Total water discharge by quality and destination.			Significant discharges to water by type are not currently tracked at the corporate level. The large majority of wastewater discharges are treated before discharge. The Company is collecting baseline data on discharges to municipal wastewater treatment plants, and this data will be reported as soon as practical, likely within two years.
EN22	Total weight of waste by type and disposal method.		• Environment Data: Waste	This is an area in which Ford is increasing its tracking and reporting. We currently report on waste by type categorized into hazardous and non-hazardous. We also report on waste disposal to landfill. With our new GEM database, we are now tracking waste disposal methods beyond landfill (i.e., recycling, reuse, compost, incineration, other.) With this new data tracking tool, we will be able to more report fully on this metric in the next few years.
EN23	Total number and volume of significant spills.		• Compliance	
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of transported waste shipped internationally.			
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.			

Products and Services

Performance Indicator and Description		Status	Report Links	Notes
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.		• Design for Lifecycle Sustainability • Sustainable Materials • End of Life • Improving Fuel Economy • Migration to Alternative Fuels and Powertrains	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.		• Sustainable Materials • End of Life	

Compliance

Performance Indicator and Description		Status	Report Links	Notes
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.		• Compliance	

Transport

Performance Indicator and Description	Status	Report Links	Notes

EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.		• Logistics	

Overall

Performance Indicator and Description		Status	Report Links	Notes
EN30	Total environmental protection expenditures and investments by type.			Our established accounting methods allow us to track expenditures for items like environmental protection and controls, but do not include methods for estimating costs associated with indirect economic, environmental or social costs and benefits. For example, during the last five years, we took charges to our consolidated income for engineering, research and development we sponsored in the following amounts: We recorded $5 billion, $4.7 billion, and $7.1 billion of engineering, research, and development costs that we sponsored during 2010, 2009, and 2008, respectively. Engineering, research and development is focused on improving the performance (including fuel efficiency) of our products, and to develop new products.

SOCIAL: LABOR PRACTICES AND DECENT WORK

Employment

Performance Indicator and Description		Status	Report Links	Notes
LA1	Total workforce by employment type, employment contract and region.		• Society Data: Engagement and Community • Global Operations	The number of employees by region can be found in Ford's Annual Report on Form 10-K.
LA2	Total number and rate of employee turnover by age group, gender and region.			This is proprietary information.
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.			

Labor/Management Relations

Performance Indicator and Description		Status	Report Links	Notes
LA4	Percentage of employees covered by collective bargaining agreements.		• Fostering a Capable and Effective Workforce • Working with the UAW	Substantially all of the hourly employees in our Automotive operations in the U.S. are represented by unions and covered by collective bargaining agreements. Most hourly employees and many non-management salaried employees of our subsidiaries outside the U.S. are also represented by unions.
LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.		• Fostering a Capable and Effective Workforce	

Occupational Health and Safety

Performance Indicator and Description		Status	Report Links	Notes
LA6	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs.		• Workplace Health and Safety	Approximately 75 percent of the Company's workforce globally are covered by the health and safety committees. This includes the entire manufacturing workforce and some staff organizations.
LA7	Rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities by region.		• Society Data: Workplace Safety • Our 2010 Safety Record	Absenteeism is covered by collective bargaining agreements which vary. The data are not tracked centrally.
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families or community members regarding serious diseases.		• Health as a Strategic Advantage • Case Study: Ford and Juvenile Diabetes	
LA9	Health and safety topics covered in formal agreements with trade unions.		• Relationship Management	

Training and Education

Performance Indicator and Description		Status	Report Links	Notes
LA10	Average hours of training per year per employee by employee category.		• Fostering a Capable and Effective Workforce • Ethical Business Practices	We provide information on employee training programs relevant to sustainability, however, our materiality analysis did not identify the average hours of training per employee as a material issue.
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.		• Fostering a Capable and Effective Workforce • Investing in Operations	

LA12	Percentage of employees receiving regular performance and career development reviews.			

Diversity and Opportunity

Performance Indicator and Description		Status	Report Links	Notes
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.		• Corporate Governance – Board of Directors • Diversity and Inclusion in the Workplace • Society Data: Engagement and Community	This indicator is partially not applicable. We report on the makeup of our Board of Directors and our U.S. workforce. However, definitions of diversity vary globally and data cannot be aggregated meaningfully outside the U.S.
LA14	Ratio of basic salary of men to women by employee category.		• Diversity and Inclusion in the Workplace • Society Data: Engagement and Community	This is proprietary information.

SOCIAL: HUMAN RIGHTS

Strategy and Management

Performance Indicator and Description		Status	Report Links	Notes
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.		• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Society Data: Engagement and Community	
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.		• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Society Data: Engagement and Community	
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.		• Ethical Business Practices • Society Data: Engagement and Community	

Non-Discrimination

Performance Indicator and Description		Status	Report Links	Notes
HR4	Total number of incidents of discrimination and actions taken.		• Diversity and Inclusion in the Workplace • Society Data: Engagement and Community	This is proprietary information.

Freedom of Association and Collective Bargaining

Performance Indicator and Description		Status	Report Links	Notes
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.		• Society Data: Engagement and Community • Working Conditions in Ford Plants • Fostering a Capable and Effective Workforce	

Child Labor

Performance Indicator and Description		Status	Report Links	Notes
HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.		• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Society Data: Engagement and Community • Working Conditions in Ford Plants • Fostering a Capable and Effective Workforce	

Forced and Compulsory Labor

Performance Indicator and Description		Status	Report Links	Notes
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measurements to contribute to the elimination of forced or compulsory labor.		• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Society Data: Engagement and Community • Working Conditions in Ford Plants • Fostering a Capable and Effective Workforce	

Security Practices

Performance Indicator and Description		Status	Report Links	Notes
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.			

Indigenous Practices

Performance Indicator and Description		Status	Report Links	Notes
HR9	Total number of incidents of violations involving rights			

	of indigenous people and actions taken.			

SOCIAL: SOCIETY

Community

Performance Indicator and Description		Status	Report Links	Notes
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating and exiting.		• Communities • Investing in Operations	

Corruption

Performance Indicator and Description		Status	Report Links	Notes
SO2	Percentage and total number of business units analyzed for risks related to corruption.		• Ethical Business Practices	
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.		• Ethical Business Practices	
SO4	Actions taken in response to incidents of corruption.		• Ethical Business Practices	

Public Policy

Performance Indicator and Description		Status	Report Links	Notes
SO5	Public policy positions and participation in public policy development and lobbying.		• Public Policy Positions • Climate Change Policy and Partnerships • Steps to Reduce Health Care Costs • Policy Letters and Directives • Sustainability Governance and Integration	
SO6	Total value of financial and in-kind contributions to political parties, politicians and related institutions by country.		• Participation in the Policy-Making Process	

Anti-Competitive Behavior

Performance Indicator and Description		Status	Report Links	Notes
SO7	Total number of legal actions for anti-competitive behavior, anti-trust and monopoly practices and their outcomes.			Legal actions are described in the Company's Annual Report on the Form 10-K.

Compliance

Performance Indicator and Description		Status	Report Links	Notes
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.		• Compliance • Society Data: Workplace Safety	Additional information on fines for non-compliance with laws and regulations can be found in the Company's Annual Report on the Form 10-K.

SOCIAL: PRODUCT RESPONSIBILITY

Customer Health and Safety

Performance Indicator and Description		Status	Report Links	Notes
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.		• How We Manage Vehicle Safety • Accident Avoidance Technologies • Driver-Assist Technologies • Occupant Protection Technologies	
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services, by type of outcomes.			Information on all legal proceedings and incidents of non-compliance can be found in the Company's Annual Report on the Form 10-K.

Products and Service Labeling

Performance Indicator and Description		Status	Report Links	Notes
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.			Ford's vehicles are subject to numerous labeling requirements that vary by country, region and state. We maintain compliance through our normal product requirement compliance systems. We report on the sourcing of components of our products on vehicle stickers. We report on safe use of the product or service in vehicle manuals. In Europe, we use an Eco-label that goes beyond legal requirements and also inform customers in the driver's manual about the impact of air conditioning on real-world fuel economy. Eco-labels also discuss substances that might produce an environmental or social impact. Ford of

				Europe also reports on disposal of products. In the U.S., Ford makes vehicle dismantling guides available.
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.			
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.		• Customer Satisfaction and Quality • Economy Data: Product, Quality and Service	

Marketing Communications

Performance Indicator and Description		Status	Report Links	Notes
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion and sponsorship.		• Policy Letters and Directives	
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship by type of outcomes.			Information on all legal proceedings and incidents of non-compliance can be found in the Company's Annual Report on the Form 10-K.

Customer Privacy

Performance Indicator and Description		Status	Report Links	Notes
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.			

Compliance

Performance Indicator and Description		Status	Report Links	Notes
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.			Information on all legal proceedings and incidents of non-compliance can be found in the Company's Annual Report on the Form 10-K.

Toolbox

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UNGC Index

Human Rights

UNGC Principle		Report Links
1.	Businesses should support and respect the protection of internationally proclaimed human rights.	• Policy Letters and Directives • Code of Basic Working Conditions • Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Working Conditions in Ford Plants
2.	Businesses should make sure that they are not complicit in human rights abuses.	• Human Rights in the Supply Chain: Ford's Global Working Conditions Program • Code of Basic Working Conditions • Working Conditions in Ford Plants

Labor Standards

UNGC Principle		Report Links
3.	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	• Code of Basic Working Conditions
4.	Businesses should uphold the elimination of all forms of forced and compulsory labor.	• Code of Basic Working Conditions
5.	Businesses should uphold the effective abolition of child labor.	• Code of Basic Working Conditions
6.	Businesses should uphold the elimination of discrimination in respect of employment and occupation.	• Code of Basic Working Conditions

Environment

UNGC Principle		Report Links
7.	Businesses should support a precautionary approach to environmental challenges.	• Environment • Climate Change
8.	Businesses should undertake initiatives to promote greater environmental responsibility.	• Environmental Management • Climate Change
9.	Businesses should encourage the development and diffusion of environmentally friendly technologies.	• Design for Lifecycle Sustainability • Ford's Sustainable Technologies and Alternative Fuels Plan

Anti-Corruption

UNGC Principle		Report Links
10.	Businesses should work against corruption in all its forms, including extortion and bribery.	• Code of Basic Working Conditions • Ethical Business Practices

Site Map

Toolbox

Print report

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Glossary

5- to 6-speed + ASC	5- to 6-speed advanced series compensated transmission
ABF	Aligned Business Framework, Ford's strategy for working more closely with key suppliers
ACC	Adaptive Cruise Control, a technology that helps drivers maintain a safe distance from the vehicle in front of them
ACEA	European Automobile Manufacturers' Association (Association des Constructeurs Européens d'Automobiles)
ACH	Automotive Components Holdings, LLC, a Ford-managed temporary business entity comprised of former Visteon Corp. plants and facilities in the United States and Mexico
ADFSO	Aggressive Deceleration Fuel Shut-Off, a technology for improving fuel efficiency
Aero	Aerodynamics
AFLS	Adaptive Front Lighting System, Ford's advanced swiveling headlight system
AIAG	Automotive Industry Action Group, a U.S.-based association of automotive OEMs, suppliers and service providers
ANCAP	Australasian New Car Assessment Program, a vehicle safety testing organization supported by the New Zealand government and Australian state governments
ANCIS	Australian National Crash In-depth Study, of which Ford is a founding member
Annual Report on Form 10-K	An audited annual financial report required by the U.S. Securities and Exchange Commission containing more detailed information about the Company's business, finances and management than the annual report
B car	Generic term for a small car (e.g., the size of a Ford Fiesta)
BEV	Battery electric vehicle, a vehicle that has no internal-combustion engine and does not use any onboard gasoline; instead, it runs on a high-voltage electric motor
Biodiesel	A diesel alternative made from vegetable oils obtained from oil seeds, including soy, canola, palm and rapeseed, or from animal fat
Bio-ethanol	A gasoline alternative derived from plant material (e.g., corn, sugar cane, sugar beets)
Blueprint for sustainability	The name of this report and, more specifically, Ford's strategy for meeting our goal of reducing our U.S. and EU new vehicle CO_2 emissions by 30 percent by the year 2020, compared to a 2006 model year baseline
BMS	Battery Management System, a Ford technology that improves the efficiency of a vehicle's electrical system
CAA	U.S. Clean Air Act
CAFE	Corporate Average Fuel Economy, a U.S. regulation requiring auto companies to meet certain sales-weighted average fuel economy levels for passenger cars and light trucks and report these numbers annually
CAMP	Crash Avoidance Metrics Partnership, an association of original equipment manufacturers, suppliers and the U.S. government conducting pre-competitive research on active safety features
Carbon Mitigation Initiative	A research partnership based at Princeton University and supported by BP and Ford
CAW	National Automobile, Aerospace, Transportation and General Workers Union of Canada
CBWC	Ford's Code of Basic Working Conditions, which articulates our commitments on key human rights and labor rights issues
C car	Generic term for a midsize car (e.g., the size of a Ford Focus)
CCX	Chicago Climate Exchange, a greenhouse gas emissions-reduction and trading program for emission sources and projects in North America
Ceres	A network of investors, environmentalists and other public interest groups that works with companies and investors to address sustainability challenges
CFMA	Changan Ford Mazda Automobile Co., Ltd., one of Ford's joint ventures in China
CO_2	Carbon dioxide, a primary greenhouse gas
DfE	Design for Environment, a tool for bridging the gap between product development and environmental management
DfS	Design for Sustainability, a tool similar to DfE but broader in scope
DOE	U.S. Department of Energy
DSFL	Driving Skills for Life, Ford's driver education program
E85	A fuel blend of 85 percent bio-ethanol and 15 percent gasoline
EcoBoost™	Ford engine technology that uses turbocharging, direct injection and reduced displacement to increase fuel economy and performance while reducing CO_2 emissions
ECOnetic	A line of European Ford model vehicles with reduced CO_2 emissions
Electrification	The process of developing the technology and infrastructure necessary to replace traditional oil-based

	vehicle fuels with electricity
ELV	End-of-life vehicle; an EU Directive requires manufacturers to take back ELVs and ensure environmentally sound recycling and disposal
Environmental aspects	The elements of an organization's activities, products and services that can interact with the environment
EOS	Ford's Environmental Operating System, which is integrated with ISO 14001 and used for driving environmental compliance
EPA	Environmental Protection Agency, a U.S. government agency
EPAS	Electric power assisted steering, a technology that boosts fuel economy and decreases CO_2 emissions
ESI	Employee Satisfaction Index, eight questions on Ford's annual Pulse survey of employees
ETS	The EU's Emission Trading Scheme
EU	European Union
Euro 4 and Euro 5	Europe's tailpipe emissions standards; the Euro 5 standard is currently being phased in
EuroNCAP	European New Car Assessment Programme, a vehicle safety testing organization based in Belgium and backed by seven European governments and the European Commission
EV	Electrified vehicle, a generic term for any vehicle that is powered – at least in part – by an electric motor
FCV	Fuel cell vehicle, a vehicle that uses an onboard fuel cell to create electrical power through a chemical reaction based on hydrogen fuel
FFV	Flexible fuel vehicle, a vehicle that can be run on any blend of unleaded gasoline with up to 85 percent ethanol
Flexible manufacturing	The use of common platforms and shared manufacturing technologies that allow a single plant to make multiple models and switch relatively rapidly between them, allowing faster response to changing customer demand
Fuel cell	A type of power plant that generates electricity by combining oxygen and hydrogen, and can be used in different sizes and configurations to power vehicles or buildings
Fuel economy	The distance that can be traveled on a single gallon of fuel
Fuel efficiency	The amount of fuel (in ton-miles-per-gallon) needed to move a vehicle of a certain weight a certain distance
GEM	Ford's Global Emissions Manager database, used for measuring, monitoring and recording environmental data
GHG	Greenhouse gas, for example carbon dioxide (CO_2), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and water vapor
GMAP	Ford's Global Material Approval Process, a materials management process
GMIR	Ford's Global Material Integration and Reporting system, a materials tracking tool used by our engineers and suppliers
GQRS	Global Quality Research System, a study conducted quarterly for Ford by the RDA Group, a market research and consulting firm
GRI	Global Reporting Initiative, a multistakeholder process and independent institution whose mission is to develop and disseminate globally applicable sustainability reporting guidelines
GRSI	Global Road Safety Initiative, a joint industry association funding road safety projects in developing countries
GTDI	Gasoline turbocharged direct injection
GTR	Global Technical Regulations, safety regulations being developed that harmonize U.S. and European regulatory requirements
HEV	Hybrid electric vehicle; a full hybrid can run exclusively on battery power, exclusively on gas power or on a combination of both
H_2ICE	Hydrogen internal-combustion engine, an engine that uses the same basic technology as gasoline-powered ICEs but runs on hydrogen fuel
ICE	Internal-combustion engine, an engine powered by fuel ignited (by either spark or compression) inside a cylinder
IIHS	Insurance Institute for Highway Safety, a U.S.-based nonprofit organization
IMDS	International Material Data System, a materials reporting system used by multiple automakers
ISO 14001	The leading global environmental management system standard, developed by the International Organization for Standardization
JDRF	Juvenile Diabetes Research Fund, a nonprofit organization to which Ford contributes funding and support
JMC	Jiangling Motors Corporation, Ltd., one of Ford's joint ventures in China
LEAD	Ford's Leadership Education for Automotive Dealerships program
LEED	Leadership in Energy and Environmental Design, the "green building" rating system of the U.S. Green Building Council
LEV	Low Emission Vehicle, a level of standards for tailpipe emissions (hydrocarbon, carbon monoxide and oxides of nitrogen) enforced in California and states that have adopted California standards
LEV program	The unique vehicle emissions program adopted by California for the control of tailpipe and evaporative emissions that provides several sets of emissions standards
Lifecycle assessment	Process of assessing the environmental, social and economic impacts of a product system over its entire lifecycle, from cradle to grave, including material production, product manufacture, product use, product maintenance and disposal at end of life
Materiality	Materiality as used in this sustainability report does not share the meaning assigned to this concept for purposes of financial reporting. For the purposes of this report, we consider material information to be that which is of greatest interest to, and which has the potential to affect the perception of, those stakeholders

	who wish to make informed decisions and judgments about the Company's commitment to environmental, social and economic progress.
MAV	Multi-activity vehicle
MQL	Ford's Minimum Quantity Lubricant machining process
MY	Model Year, the manufacturer's annual production period which includes January 1 of the calendar year. For example, production of 2009 model year vehicles might begin in June 2008 and end in May 2009, but could start as early as January 2, 2008, and end as late as December 2009. We report fuel economy by model year because that is how it is reported to government agencies, and therefore, this data corresponds to what is available in the public domain.
NADA	National Automobile Dealers Association, an industry association of car and truck dealers
NCAP	New Car Assessment Program, the U.S. government's safety testing program
NGO	Nongovernmental organization
NHTSA	National Highway Traffic Safety Administration, a U.S. government agency
NMOG	Non-methane organic gases
NOV	Notice of violation (e.g., from a regulatory agency)
NPRI	National Pollutant Release Inventory (Canada), similar to U.S. TRI
NSC	National Safety Council, a U.S.-based nonprofit organization
NV opt	Optimization of the engine speed (N) and vehicle speed (v) ratio
OEM	Original equipment manufacturer
OHS policy	Ford's Occupational Health and Safety policy
ONE Ford	Ford's accelerated restructuring plan; One Team unified in pursing One Plan to deliver One Goal: An exciting, viable Ford
OSRP	Occupant Safety Research Partnership, a group within the U.S. Council for Automotive Research that researches and develops advanced crash-test dummies and other pre-competitive safety systems
PAS	Ford's Partnership for Advanced Studies, our flagship education program
PDGs	Public Domain Guidelines, internal Ford guidelines that focus on ensuring that our vehicles earn top marks in public domain assessments
PHEV	Plug-in hybrid electric vehicle, a vehicle similar to an HEV in that it is equipped with both an electric battery and a gas-powered engine; however, PHEVs are equipped with a high-capacity battery that can be charged from an ordinary household socket
PowerShift	Ford's fuel-efficiency-boosting, six-speed, dual-clutch transmission system
PSI	Product Sustainability Index, a tool used by Ford of Europe to incorporate lifecycle analysis into product development
Pulse survey	Ford's annual, voluntary survey of salaried-employee satisfaction
PZEV	Partial Zero Emission Vehicle, a vehicle standard that is part of the LEV II Program
REACH	Registration, Evaluation, Authorization and Restriction of Chemical Substances (EU legislation)
RFS	Renewable Fuel Standard, a provision within the U.S. Energy Independence and Security Act of 2007 requiring a significant increase in the use of biofuels
RSC	Roll Stability Control®, Ford's electronic stability control system
SDGs	Safety Design Guidelines, Ford's stringent internal engineering design targets
SHARP audits	Ford's Safety and Health Assessment Review Process audits
Six-speed transmission	A transmission using six gears, for improved fuel economy compared to typical four-speed transmissions
Stakeholder	Anyone who is impacted or believes they are impacted by the operations or practices of the Company, including customers, employees, business partners, shareholders, governments, communities and nongovernmental organizations. Some also consider the environment a stakeholder.
Sustainability	A business model that creates value consistent with the long-term preservation and enhancement of environmental, social and financial capital. Also, meeting the needs of the present without compromising the future.
Sustainable Technologies and Alternative Fuels Plan	Ford's product strategy, outlining the near-, mid- and long-term steps we are taking to develop and deploy vehicle and fuel technologies to implement our blueprint for sustainability
SUV	Sport utility vehicle
SULEV	Super Ultra-Low Emission Vehicle, a level of standards for tailpipe emissions enforced in California and states that have adopted California standards
Tank-to-wheels CO_2 emissions	A subset of well-to-wheels CO_2 emissions; includes the CO_2 generated by burning the fuel in the vehicle
TCR	The Climate Registry, a voluntary carbon-emissions reporting project
TGW	"Things gone wrong," a metric measured by the GQRS
Tier 1 Suppliers	Suppliers sourcing directly to our assembly plants
Tier 2 Suppliers	Suppliers not sourcing directly to our assembly plants
Tier 2 Emissions Standards	The U.S. federal program, starting with the 2004 model year, to control vehicle emissions standards
Tire	Optimized tire rolling resistance and pressure
TRI	Toxics Release Inventory, an inventory of releases and transfers of certain chemicals that are required to be reported to the U.S. government
TÜV Rheinland	A German-based product-testing company
UAW	The International Union, United Automobile, Aerospace and Agricultural Implement Workers of America
UNGC	United Nations Global Compact, a global policy initiative through which business agree to align their

	operations with 10 principles in the areas of human rights, labor, environment and anti-corruption
URP	University Research Program, a Ford program for collaborating with researchers at more than 100 universities worldwide
USCAP	U.S. Climate Action Partnership, a group of businesses and environmental organizations promoting national legislation to reduce greenhouse gas emissions
VEBA	Voluntary Employee Benefit Association trust, an independent trust designed to ensure health care coverage for current and future Ford employees
VOCs	Volatile organic compounds, compounds that vaporize (become a gas) at relatively low temperature
WBCSD	World Business Council for Sustainable Development
Well-to-tank CO_2 emissions	A subset of well-to-wheels CO_2 emissions; measures the CO_2 generated by excavating the feedstocks and producing and distributing the fuel or electricity
Well-to-wheels CO_2 emissions	Accounts for emissions from the vehicle itself, as well as CO_2 emissions resulting from the production and distribution of fuel
WET	Water Estimation Tool, a Ford software program that helps facilities to predict their water usage
WHC	Wildlife Habitat Council, a U.S.-based nonprofit organization
WHO	World Health Organization, the international organization providing leadership on global health matters
WILD	Water Ideas to Lessen Demand, Ford's list of practical ideas for reducing water use
WRI	World Resources Institute, a U.S.-based nonprofit organization
ZEV	Zero Emission Vehicle, the lowest level of standards for vehicle emissions enforced in California and states that have adopted California standards