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**2010 HIGHLIGHTS...**

<p>With the AIAG, trained 463 suppliers in Turkey and Brazil on working conditions issues</p>	<p>The first automaker to issue a disclosure statement for the California Transparency in Supply Chains Act of 2010 (<a href="#">SB 657</a>).</p>	<p>The only automaker to participate in the Carbon Disclosure Project's Supply Chain Program</p>	<p>Asked to join the UN Global Compact's Supply Chain Sustainability Advisory Committee</p>
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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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- [Code of Basic Working Conditions](#)
- [Sustainable Raw Materials](#)
- [Supplier Relationships](#)
- [Human Rights in the Supply Chain: Ford's Global Working Conditions Program](#)
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- [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](#)



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## 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**



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## 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

### Related Links

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.

[Report Home](#) > [Material Issues](#) > [Supply Chain](#) > [Supplier Relationships](#) > [Creating a Sustainable Supply Chain: A Developmental Approach](#)



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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](http://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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- [AIAG](#)

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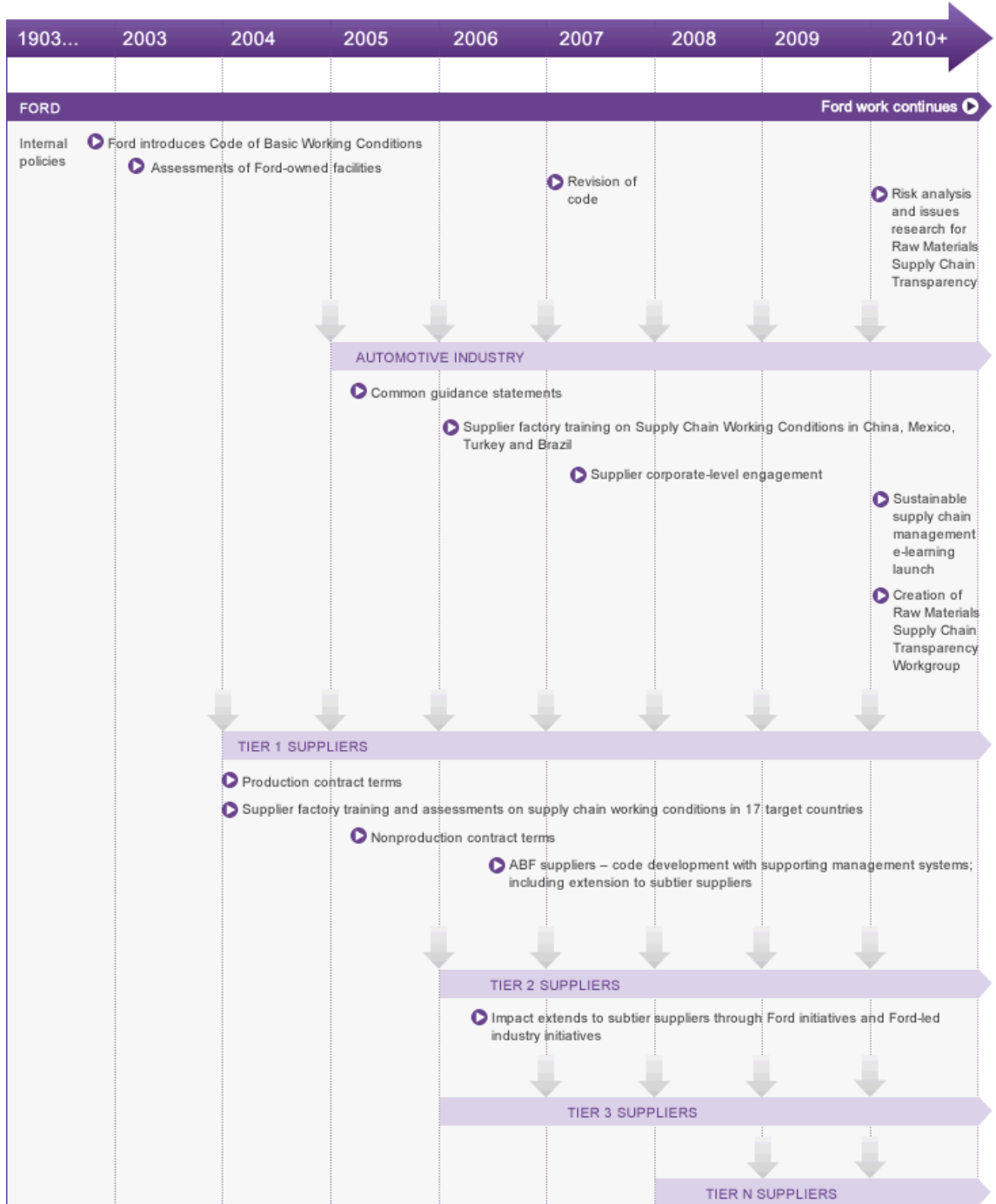
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## Expanding Human Rights Impact on Supply Chain







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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.

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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.

### Related Links

This Report:

- [Society Data: Working Conditions Assessment Status for Supply Chain](#)

External Websites:

- [AIAG](#)

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[Working Conditions Program](#)

## 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.

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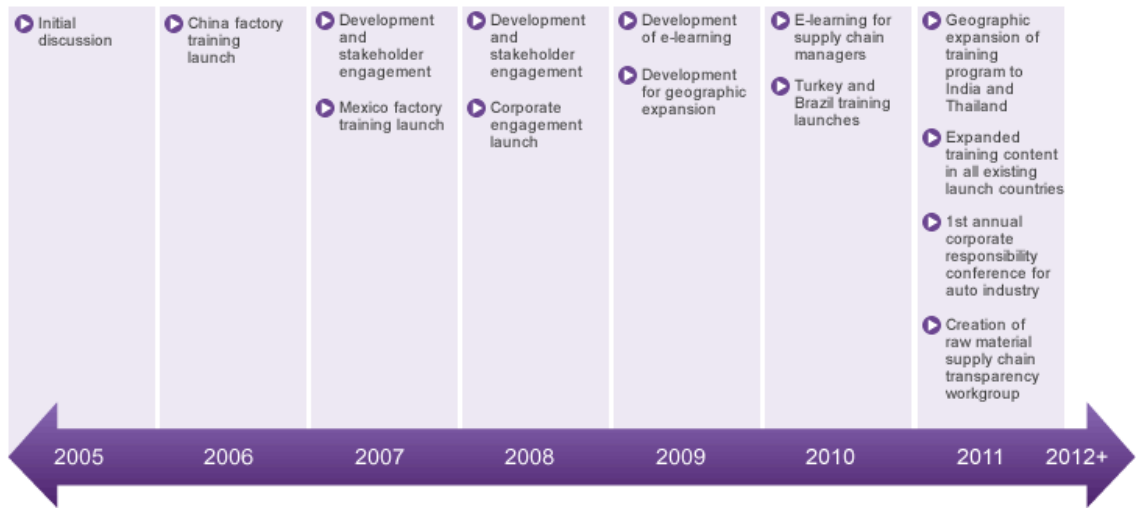
## Collaboration Within the Automotive Industry

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

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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.

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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



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## 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.

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## 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

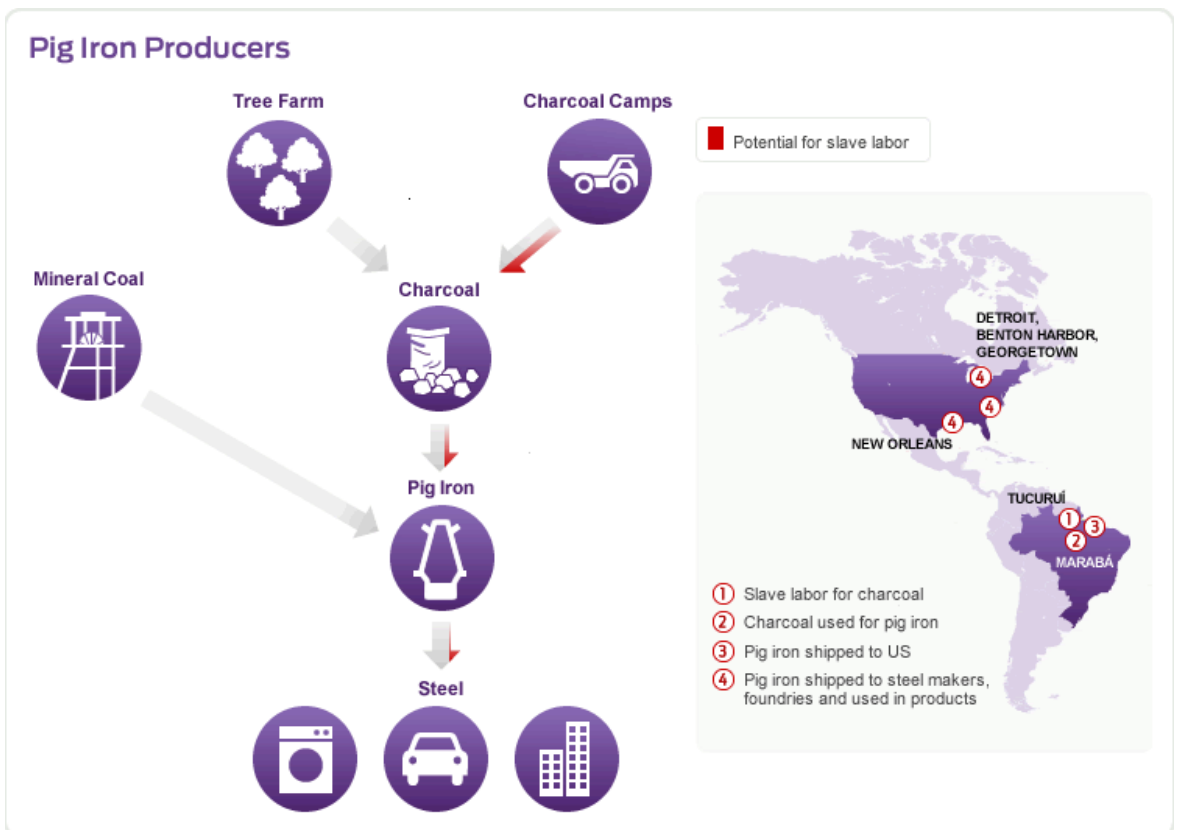
### Related Links

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](#)

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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.

## Related Links

This Report:

- [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.

#### Related Links

This Report:

- [Climate Change](#)
- [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

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- [Sustainable Materials](#)
- [Sustainable Raw Materials](#)

External Websites:

- [REACH](#)

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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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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<sub>2</sub>) emissions reporting and CO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> emissions for our North American land-based networks. In 2010, following work with our transatlantic lead logistics partner UTIWorldwide, we introduced CO<sub>2</sub> 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<sub>2</sub>O 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

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- External Websites:
- Greenhouse Gas Protocol
  - Carbon Disclosure Project

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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<sub>2</sub> 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<sub>2</sub> 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.

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- [Supporting a Great Place to Work](#)

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- [Zubi Advertising](#)