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 necessary to make our final products. (See Supply Chain Profile.) Many suppliers serve numerous automakers, and each of those suppliers, in turn, has 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.

In today's economic environment, achieving lower costs, improving quality and meeting sustainability goals require an unprecedented level of cooperation with suppliers, as well as strong supplier relationships. Ford and its suppliers must work jointly to deliver great products, have a strong business and make a better future.

This section describes our overall approach to developing a sustainable supply chain, including building strong relationships with our suppliers, developing supplier capability to manage sustainability issues, and collaborating with others in our industry on supply chain sustainability. It also describes our efforts to:

- Support human rights in our supply chain
- Promote environmental sustainability in our supply chain
- Address human rights and environmental issues related to certain raw materials
- Promote diversity among our suppliers

More than

80 percent

of Ford's strategic production suppliers have a robust code of conduct aligned with Ford's Code.

Sustainable Raw Materials

We are leading industry-wide efforts to support supply chain sustainability and eliminate conflict minerals in our supply chain.

Assessing Supplier Emissions

In 2012, we expanded our supplier greenhouse gas emissions survey to 135 suppliers.

Supply Chain Profile

Production

Products that become part of the vehicle

60+
Countries in which suppliers are located

38
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

70
Ford manufacturing sites

1,300+
Supplier companies (Tier 1)

4,400+
Supplier manufacturing sites

130,000
Parts currently being manufactured

500
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, transportation, advertising

11,000+
Supplier companies

600+
Nonproduction commodities

Total global buy

$75+ billion

Creating a Sustainable Supply Chain: Ford's Approach

At Ford, we promote long-term relationships with our suppliers and seek alignment with them on sustainability-related issues such as human rights and environmental responsibility. 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 creating a sustainable supply chain and managing sustainability issues throughout our supply chain:

1. Building strong relationships with suppliers and engaging strategic suppliers: Strong relationships improve our ability to encourage and influence the sustainability goals and management processes of our suppliers. We base supplier relationships on open communication, clear expectations and consistent requirements and processes. We have developed an Aligned Business Framework (ABF) with our most strategic suppliers, which helps us increase mutual profitability, improve quality, drive innovation and encourage shared commitment to sustainability goals. We work with our ABF suppliers at the corporate level to align and enhance approaches to a range of sustainability issues.

2. Developing shared commitment and supplier capability: We seek to foster a shared commitment to sustainability throughout our supply chain and to help our suppliers build the capability they need to manage sustainability issues internally and throughout their own supply chains. We do this through dialogue and engagement, training, contract requirements, compliance assessments and, where necessary, remediation at individual factories.

3. Collaborating across the automotive industry: To influence and achieve lasting change at all levels of the automotive supply chain, we are leading work with our counterparts in the automotive industry to develop common approaches to a full range of sustainability issues. We do this work through the Automotive Industry Action Group and other industry and cross-industry initiatives.

Related links

This Report

- Expanding Impact on Our Supply Chain

Expanding Impact on Our Supply Chain

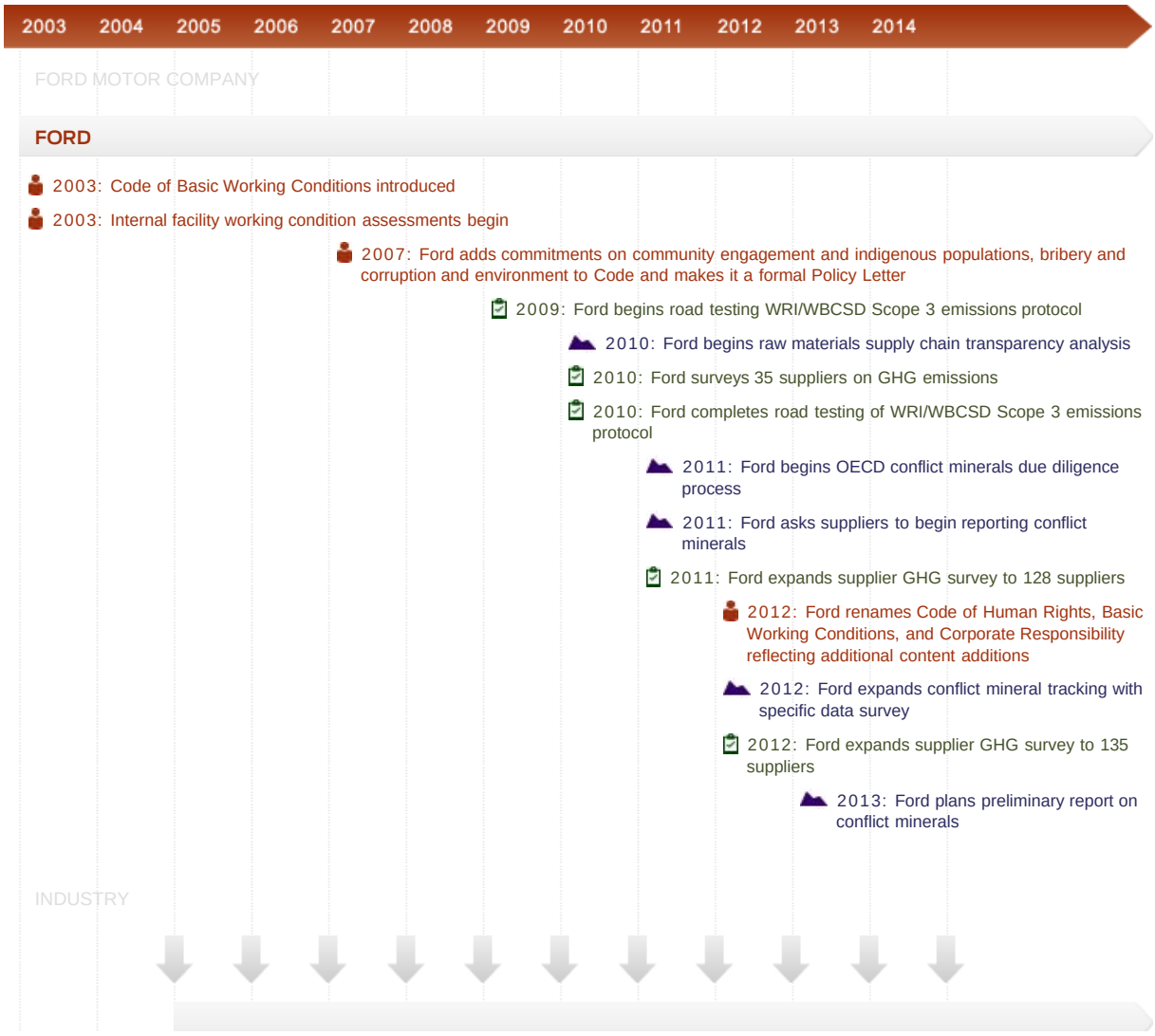
The graphic below illustrates how we are working toward our vision using a three-pronged approach to expand our impact throughout our supply chain and the industry as a whole. We work on multiple levels to increase the impact of our efforts.

Initially, we focused on working toward our sustainability vision within our own operations. For example, we began our work on human rights and working conditions by developing our own code of conduct for these issues, training our own workforce and assessing our own facilities. But we also work to push our goals and vision throughout our supply chain by collaborating with other manufacturers in the industry and working with our suppliers. We work with others in our industry to develop common expectations and guidance for suppliers and to provide consistent training. All of our direct (Tier 1) suppliers are subject to our Global Terms and Conditions, which require that both our own suppliers and their sub-tier suppliers meet specific sustainability expectations. We also provide training to our Tier 1 suppliers to build their capability to manage sustainability issues, and we require that they cascade the training to their own suppliers. And, we perform assessments of supplier facilities to ensure compliance.

Related links

This Report

- Human Rights in the Supply Chain: Ford's Global Working Conditions Program
- Supply Chain Environmental Management
- Conflict Minerals



INDUSTRY COLLABORATION

- 2005: Ford initiates industry work group on working conditions and human rights
- 2006: Joint industry, AIAG-led supplier trainings begin in select countries
- 2007: Joint industry supplier trainings continue
- 2010: Joint industry supplier trainings continue
- 2010: Ford helps form AIAG industry work group on conflict minerals
- 2010: Ford helps develop AIAG supplier GHG survey tool
- 2011: Joint industry supplier trainings continue
- 2011: Ford joins the Public Private Alliance for Responsible Minerals Trade (PPA) Governance Committee
- 2012: Joint industry supplier training content expanded to include ethical business practices and environmental sustainability
- 2012: Ford helps develop conflict mineral and smelter information collection tool with AIAG
- 2013: Joint industry supplier trainings continue

SUPPLY CHAIN

TIER 1 SUPPLIERS

- 2004: Sustainability requirements added to production supplier contracts
- 2004: Supplier facility working conditions assessments begin
- 2004: Ford supplier working conditions training begins
- 2005: Sustainability requirements added to non-production supplier contracts
- 2005: Supplier facility assessments continue
- 2006: Supplier facility assessments continue
- 2006: Ford helps suppliers build management capacity on human rights issues
- 2007: Ford adds sustainability management expectations to Aligned Business Framework, for strategic suppliers
- 2007: Supplier facility assessments continue
- 2008: Supplier facility assessments continue
- 2009: Supplier facility assessments continue
- 2010: Supplier facility assessments continue
- 2011: Supplier facility assessments continue
- 2012: Supplier facility assessments continue
- 2013: Supplier facility assessments continue

TIER 2 SUPPLIERS

- 2006: Ford requires suppliers to cascade working conditions training to their own supply chain
- 2007: Ford influences sub-tier suppliers by working with ABF strategic suppliers to develop Codes of conduct and supporting management systems, including for sub-tier supply chain management

TIER 3 SUPPLIERS

TIER N SUPPLIERS

Building Strong Supplier Relationships

Building strong relationships with suppliers is central to our ability to create a sustainable supply chain. Without strong relationships, we lessen our ability to influence the sustainability goals and management processes of our suppliers. We base our relationships with suppliers on open communication, clear expectations and consistent requirements and processes. And we work to maintain these relationships by:

- Deploying a single, global product-creation process that combines aggressive execution of product plans with minimal variances
- Enhancing process and part stability, commonality and reusability
- Providing real-time performance data to our supply base
- Providing suppliers with greater access to senior Ford managers in small-group settings
- Improving order fulfillment
- Engaging suppliers in discussions about process stability, incoming quality and corporate responsibility

Engaging Strategic Suppliers through Our Aligned Business Framework

In addition to the efforts we make to build relationships with all of our suppliers, we engage even more robustly with our most strategic suppliers, through our Aligned Business Framework (ABF). We introduced the ABF for our most strategic suppliers in 2005 to increase mutual profitability, improve quality, drive innovation and help us encourage shared commitment to sustainability goals. Through our ABF program, we help our Tier 1 suppliers develop the capability to manage their own supply chain sustainability issues.

We sign bilateral agreements with our ABF suppliers that comprehensively and formally spell out business commitments. For example, ABF suppliers must commit to manage and assure proper working conditions and responsible environmental management in their facilities and their supply chains. ABF suppliers must also adhere to our Global Terms and Conditions. Beyond the fact that it is the right thing to do, requiring suppliers to commit to these terms also reduces the risk of operational or reputational issues that could affect production and provides the basis for Ford to work with suppliers to ensure responsible behavior throughout the automotive supply chain. See the Building Shared Commitment and Capability throughout Our Supply Chain section for more on how we engage ABF suppliers on sustainability issues.

Ford's ABF Suppliers

As of June 2012, the ABF network included 103 companies, including 78 production and 25 nonproduction suppliers from around the world. Minority- and women-owned suppliers make up more than 10 percent of the total.

ABF Production Suppliers

- Akebono
- Asahi Glass Co Ltd.
- Autoliv
- Automotive Lighting
- Autoneum
- BASF
- Benetler Automobiltechnik GmbH
- BorgWarner
- Bosch
- Brembo

- Brose
- Central Glass of America
- Continental
- Cooper Standard
- Dakkota*
- Dana
- Delphi
- Denso
- Detroit Manufacturing Systems*
- Diamond Electric
- Dicastal Wheel
- Diversified Machine
- Dupont
- Eisenwerk Bruel GmbH
- Faurecia
- FCC Adams LLC
- Federal Mogul
- Flex-N-Gate*
- Foster
- GFT (Getrag/Ford JV)
- GKN
- Grupo Antolin*
- Hankook
- Hella
- Hitachi-Clarion
- HUSCO Automotive
- IAC
- Inalfa
- Inergy

- JCI
- Johnson Matthey
- Kautex Textron GmbH & Co.KG
- Key Safety Systems
- Kiekert
- KSPG Group
- Lear
- Linamar
- Magna
- MANN & HUMMEL
- Martinrea
- Maxion Wheels
- Michelin
- Mitsubishi Electric Corporation
- Muhr und Bender KG
- Neapco
- Nemak
- PPG
- Panasonic (Sanyo)
- Piston Automotive*
- Pirelli
- Prime Wheel*
- Ronal
- Samvardhana Motherson
- Sonavox
- Superior
- Takata Holdings
- Tenneco
- Thai Summit
- Thyssen Krupp
- Toyoda Gosei
- Trelleborg
- TRW

- Umicore
- Valeo
- Visteon
- Webasto
- Yazaki
- ZF

ABF Non-Production Suppliers

- Active Aero
- Aristeo
- Blue Hive
- Cisco
- Cross Country Automotive Services
- Devon Industrial Group*
- Durr
- EWI Worldwide
- Ewie*
- Federal Express
- Global Parts & Maintenance
- Gonzalez Production Systems*
- Imagination

- Kajima Overseas Asia
- Kuka
- MAG Automation
- Microsoft
- MSX International
- Penske
- Percepta
- Roush
- Team Detroit
- Uniworld Group*
- Waldbridge
- Zubi Advertising*

* indicates minority- or women-owned business enterprise supplier

Building Shared Commitment and Capability

Related links

This Report

- Building Strong Supplier Relationships
- Policy Letters and Directives

It is important that our suppliers share our commitment to environmental and social responsibility. Shared commitment improves the flow and quality of information critical to continuity of supply and compliance with regulations. Shared commitment helps to ensure efficiency and quality throughout the supply chain, and it helps us avoid risks to our operations and reputation that can arise due to substandard practices in our supply chain.

We encourage our suppliers to manage sustainability issues and risks within their own operations and supply chains, and we provide them with tools to build the capability to do this. For example, we have developed in-depth resource guides and sponsored presentations by subject-matter experts on issues such as human rights and greenhouse gas emissions. We have provided worksheets on emissions tracking and reporting and on code of conduct development. And we are sharing training materials we have developed (discussed below), 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.

While we provide training and guidance to suppliers on a range of sustainability issues, we have developed a detailed training program on human rights issues. The program includes training and follow-up assessments and requires remediation of substandard practices as necessary. This program is described in more detail in Human Rights in the Supply Chain: Building Supplier Capability through Localized Training and Collaboration.

Ford's ability to assess and influence the sustainability performance of our supply chain decreases the further suppliers are removed from us. It is challenging, for example, to influence and assess our Tier 1 suppliers' third- or fourth-tier suppliers. Fortunately, many of our Tier 1 suppliers are major multinational companies that already have the capability to implement and manage sustainability initiatives for their own operations and their own supply chains. Thus, we work hard to align these Tier 1 suppliers to our sustainability goals and rely on them to help us maintain a clear and consistent message as far down our supply chain as possible.

back to top

Setting Requirements for Sustainability Issues in Our Supplier Contracts and Guides

The basis of our sustainability work with suppliers is the Ford Code of Human Rights, Basic Working Conditions and Corporate Responsibility. We first adopted this Code in 2003 and then formally issued it as Policy Letter 24 in 2007. The Code addresses workplace issues such as working hours, child labor, forced labor, nondiscrimination, freedom of association, and health and safety, as well as environmental issues and other topics. Though this Code applies directly to our own operations, we seek to do business with companies that have standards consistent with our Code. In 2012, Policy Letter 24 was revised to specifically communicate our encouragement of suppliers to adopt and enforce similar policies for their suppliers and subcontractors.

We incorporate requirements about sustainability management in our Global Terms and

Conditions, the contract to which every supplier doing business with Ford is subject. This core contract dictates 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. Policy Letter 24 provides the standard for this contract, and the Terms and Conditions stipulate that that standard supersedes local law if it 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 Code 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 environmental responsibility
- 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 Global Terms and Conditions are accompanied by Supplier Social Responsibility, Anti-Corruption, and Environmental Requirements Web-Guides, which further outline our expectations. For example, the supplier guide that covers human rights and working conditions amplifies the expectations set out in the Terms and Conditions, provides specific guidance and recommendations for self-assessments and alerts suppliers to the availability of factory-level training. In April 2012, we reissued these Guides with extensive edits, such that clearer guidance is provided on due diligence for conflict-free sourcing, business ethics, anti-corruption actions, environmental specifications for engineering and working conditions expectations.

back to top

Going Further with Our ABF Suppliers

For our strategic ABF suppliers – which supply more than 65 percent of our annual buy – we have developed a rigorous process for managing sustainability issues that builds on the above but also goes further. The intent is for our ABF suppliers to wholly own responsibility for sustainability expectations and performance in their supply chain.

We encourage our ABF suppliers to develop a shared commitment to our sustainability goals and effective systems for managing sustainability issues through a three-phase developmental process:

Verify Supplier Code of Conduct

We ensure that our ABF suppliers have, or develop, a code of conduct aligned with our Code of Human Rights, Basic Working Conditions and Corporate Responsibility.

Training and Compliance

We provide training as needed to our ABF suppliers and ask them to conduct their own internal trainings to ensure that their employees understand their code of conduct. We also ask suppliers to develop a rigorous compliance process supporting their code.

Extending Expectations to Their Supply Chain

Finally, we ask our ABF suppliers to extend our shared sustainability goals and expectations to their own suppliers, expanding the impact of our sustainability goals throughout the multiple tiers of our supply chain.

The Ford Supply Chain Sustainability staff have implemented a robust process of review at each of the three phases, or milestones, of this developmental process. To date, more than 80 percent of our Production ABF suppliers have demonstrated that they have codes of conduct in place that are aligned with international standards, and 35 percent of our ABF suppliers have demonstrated that they have met all three Ford milestones – that is, they have aligned codes of conduct in place

supported by robust management systems governing their own operations and their supply chain. ABF suppliers also still participate in our factory-level human rights working conditions program if requested by Ford.

Through our work with ABF suppliers, we have identified key success factors that enable companies to make progress in managing sustainability issues in their own supply chains, 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. implementation support from Ford in the form of discussion facilitation and/or individual or regional in-person meetings.

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 work groups at the Automotive Industry Action Group, and by the United Nations Global Compact, have been useful to our ABF suppliers in their development of sustainable supply chain systems.

back to top

Supplier 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 May 2012, Ford selected one winner for the 2011 Corporate Responsibility Recognition of Achievement Award: Saturn Electronics and Engineering.

back to top

Industry and Cross-Industry Collaboration

We believe that collaborative action within our industry allows us to more effectively influence all levels of the automotive supply chain. We have taken an "open book" approach to our supply chain work, sharing best practices, challenges and opportunities with others in our industry. We primarily work through the Automotive Industry Action Group, or AIAG. The AIAG is a North American, member-based, nonprofit industry group specializing in supply chain issues. It supports industry efforts to establish a seamless, efficient and responsible supply chain. Member companies donate the time of individuals to work at the AIAG, which operates as a noncompetitive, open forum that is intended to develop recommendations and best practices for reducing complexity and ensuring alignment on common issues across the industry.

We work on supply chain sustainability issues through the AIAG's Corporate Responsibility Committee. This committee currently focuses on five main issues: global working conditions, Conflict Minerals, greenhouse gases, chemicals management and reporting, and health care value. There are AIAG subcommittees for each of these issue areas and for other key issues. Ford staff chair three work groups: chemicals management and reporting, greenhouse gases, and environmental performance metrics. Ford has also historically contributed an "executive on loan" to the AIAG to support the industry's work and share what we have learned from working on these issues within our own operations.

Focus Areas for Industry Cooperation

Work in partnership with the AIAG continues on several fronts. Member companies are:

- Exploring an industry response to raw materials sourcing and transparency challenges
- Providing common guidance and tools for responsible procurement
- Continuing to expand a factory-level supplier training program for a responsible supply chain
- Increasing supplier ownership of corporate responsibility issues through an expansion of engagement opportunities
- Developing resources and networks that will ensure the successful communication of responsible procurement 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 participating in cross-sectoral initiatives. Broader participation will be needed to achieve the vision of an industry-wide approach to promoting supply chain sustainability.

For more about the corporate responsibility accomplishments and ongoing work of the industry through the AIAG, see their website.

In addition to our work through the AIAG, Ford is helping to address common issues of environmental and social responsibility in the automotive supply chain through active participation in several other industry and cross-industry associations and corresponding work groups, including:

- The UN Global Compact Advisory Group on Supply Chain Sustainability. This advisory group seeks to develop and promote tools and guidance for businesses on key issues and best practices in developing sustainable supply chains. Ford is one of approximately 20 stakeholders in this invitation-only group, and one of only two automotive companies. As part of this work we are one of the lead developers of an online portal of tools and resources designed to assist business practitioners in embedding sustainability in supply chains.

- CSR Europe Automotive Working Group on Supply Chain Sustainability. In 2013, Ford joined with seven other major automakers and CSR Europe, a leading European

Related links

External Websites

- AIAG
- UN Global Compact Advisory Group on Supply Chain Sustainability
- CSR Europe

business network for corporate social responsibility, to create this working group. The primary goals of the group are to share experiences and information on sustainability issues in the automotive supply chain; develop and apply common tools; work together on common projects in order to improve sustainability in supply chains; and send a common message to supply chains concerning sustainability activities and requirements.

Human Rights in the Supply Chain: Ford's Global Working Conditions Program

Human rights and working conditions are a primary focus of our work with suppliers. We aim to ensure that everything we make – or others make for us – is produced consistent with local law and our Code of Human Rights, Basic Working Conditions and Corporate Responsibility. 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), where the risk for substandard working conditions is often heightened. For this reason, we have had to define our approach carefully and involve suppliers, other automakers, governments, nongovernmental organizations (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 our suppliers' responsibility, and we would like governments to play the lead role in enforcing compliance with laws. As customers, however, we have an active role to play in supplier development.

Since we began work with our suppliers to ensure alignment with our Code of Human Rights, Basic Working Conditions and Corporate Responsibility, our approach has emphasized building capability throughout the supply chain to manage working conditions effectively. Our primary focus has been on training and education regarding working conditions issues and management systems.

We also use third-party assessments of individual supplier factories to verify performance and progress. Our assessments are announced and coordinated with the supplier and Ford business owners. We do not conduct unannounced audits, as the risk profile of our Tier 1 supply base does not include significant indication of the types of issues intended to be "caught" during an unannounced audit.

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 began promoting cross-industry collaboration 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.

Related links

This Report

- Policy Letters and Directives
- Expanding Impact on Our Supply Chain

Building Supplier Capability through Localized Training and Collaboration

The primary focus of our work on human rights in our supply chain is building capability among our suppliers to responsibly manage working conditions. We began by developing a training curriculum for Ford suppliers in approximately 20 priority countries and surrounding areas. (See Working Conditions Program Focus Countries box below.) Initially, we based the trainings on Ford's own Code of Basic Working Conditions and implemented them ourselves at our supplier facilities.

We recognized from the outset, however, 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 in 2005, we initiated a work group within the Automotive Industry Action Group (AIAG), and we recruited other automakers in North America, Asia and Europe to participate.

We have since worked with other automakers through the AIAG to develop a set of guidance statements that establish a shared industry voice on key working conditions issues and a training program for industry suppliers. Initially the industry guidance statements and trainings covered child labor, forced labor, freedom of association, harassment and discrimination, health and safety, wages and benefits, and working hours. In 2010, they were expanded to cover business ethics and environmental responsibility.

It should be noted that Ford's specific expectations in the Ford Code of Human Rights, Basic Working Conditions and Corporate Responsibility 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.

We have trained nearly

2,100

Ford suppliers since we began our working conditions training program, and this training has been cascaded to more than

430,000

individual workers and nearly

85,000

sub-tier supplier companies

Related links

This Report

- Data: Working Conditions Training and Assessment Status for Supply Chain

External Websites

- AIAG

Supplier Training Program

Most of our supplier training is now implemented through the AIAG in conjunction with other automakers. In 2012, we expanded the content of these AIAG-led trainings to include ethical business practices and environmental responsibility, in addition to human rights and working conditions. We continue to supplement AIAG-led trainings done in conjunction with other automakers with Ford-specific workshops as needed.

Where Trainings Occur

Beginning in 2007, the sponsoring OEMs launched joint factory-level training workshops in China and Mexico. We have added locations since that time. To date, the expanded trainings have been implemented in Argentina, Brazil, China, Mexico, Romania, Russia, Thailand, Turkey and Venezuela.

Locations for trainings are chosen through discussion and agreement by the AIAG member companies. The launch of each series of in-country trainings involves participation by OEM representatives and Tier 1 suppliers as well as local industry associations and government support where possible. At Ford, we develop our recommendations for training locations with a focus on the 20 countries and regions we have identified as having higher risks of substandard working conditions (see Working Conditions Program Focus Countries box below). Among those countries, we prioritize our recommendations for training locations 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 our list of priority countries in comparison with our global sourcing footprint. We did not find it necessary to add countries in the most recent review.

What Training Sessions Include

Training sessions are customized to align with the unique laws, customs, cultures and needs of each location. Generally, the following working conditions and environmental responsibility issues are addressed:

- Harassment and discrimination
- Health and safety
- Wages and benefits
- Working hours
- Child labor
- Forced labor
- Freedom of association
- Key areas of environmental responsibility, including energy and greenhouse gas emissions, waste, regulatory requirements, environmental testing, and employee, subcontractor and supplier training
- Environmental management systems and continuous improvement
- Environmental performance of products

Training workshops emphasize how these topics are covered in local legal standards, in the industry guidance developed by participating automotive OEMs, and in international best practices. Both the industry guidance and international best practices shared in training sessions may exceed local laws. The trainings also include strategies for developing management systems to ensure compliance in each topic area. And, they address the business benefits of promoting social and environmental responsibility, including protecting and enhancing brand reputation, improving quality and productivity, and avoiding costs associated with employee turnover, absenteeism, injury and illness.

The training sessions are generally day-long interactive workshops facilitated by qualified trainers and involving multiple automotive suppliers. They are structured to provide participants with a solid understanding of customer expectations, local law, best practices and sustainability management systems.

Trainings generally target managers from the human resources, health and safety, and legal departments of participating companies. The sessions use a “train-the-trainer” approach to expand the scope and impact of the training. Participating suppliers are required to cascade the information they learn to management and all personnel within their own company as well as to their direct suppliers. Ford requires confirmation that information was shared within four months of the training session.

In 2010, the automakers collaborating at the AIAG launched an online training program on supply chain working conditions and responsible procurement targeted at purchasing and supply chain management professionals. This web-based training is offered free of charge to suppliers of the five OEMs participating in the AIAG training program. The training has also been deployed internally at a number of the sponsoring OEMs for their own global purchasing and supply chain staffs.

2012 Trainings Completed

In 2012, all Ford trainings were joint industry trainings coordinated through the AIAG. These trainings included both in-person classroom training sessions and e-learning trainings. The AIAG held classroom training sessions in Argentina, China, Mexico, Russia, Thailand, Turkey and Venezuela. More than 325 Ford suppliers attended these classroom sessions.

This brings the global total for trained Ford suppliers to nearly 2,100. (This figure includes dedicated Ford supplier training sessions conducted with the AIAG as well as industry training sessions in which Ford participated along with the AIAG and other automakers.) Because attendees are required to subsequently cascade the training and expectations to the entire factory population and suppliers, these trainings indirectly reach even more companies and individuals. Through this cascading process, the training of suppliers globally since the inception of the program has impacted more than 2,700 supplier representatives, who in turn have cascaded the training information to nearly 25,000 supplier managers and more than 430,000 individual workers as well as nearly 85,000 sub-tier supplier companies.

Suppliers trained in 2012 have now moved on to the process of self-assessing their facilities for compliance with local law and Ford expectations and communicating expectations to their own workers and their suppliers.

In 2013 we plan to conduct additional supplier training sessions in conjunction with the AIAG in Brazil, Mexico, Romania, South Africa and Turkey. Where possible, these courses will be open to any interested company; 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.

Next Steps in Industry Training

As the AIAG initiatives develop and mature, Ford will maintain a leadership position in our work with the supply chain. We will continue to conduct our own training programs in countries not covered by AIAG programs. We will also seek further opportunities to strategically leverage our audit data and training processes to enhance our overall approach to working conditions and environmental responsibility in the automotive supply chain.

Working Conditions Program Focus Countries

- Americas and Caribbean: Argentina, Brazil, Colombia, Mexico (and Central America region), and Venezuela
- Asia and Africa: China, India, Korea, Malaysia, Morocco, the Philippines, South Africa, Taiwan, Thailand and Vietnam
- Europe: Romania, Russia and Turkey

back to top

Assessing Suppliers

Since 2003, we have conducted more than 800[1] third-party audits of existing and prospective Tier 1 suppliers in 20 countries on issues relating to ethics and working conditions. The audits provide feedback to Ford and suppliers about how well suppliers are meeting legal requirements and Ford's expectations. The audits also provide insight into the effectiveness of our training programs. The audits consist of a detailed questionnaire, a document review, factory visits, and management and employee interviews, and are conducted by external, qualified social auditors.

In 2012, we conducted audits across our 20 target countries. The findings from the 2012 audits were generally consistent with those we had previously conducted. Namely, they identified certain general health and safety issues, several wages and benefits issues and a limited number of other types of noncompliance.

The findings from Ford's 2012 supplier audits included:

- No evidence of forced labor or physical disciplinary abuse
- Some 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
- 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.

If any issues are identified during an audit, suppliers are required to complete corrective action plans, which Ford reviews and approves. The corrective action plans outline how a supplier will resolve the issues and include clear responsibility and timelines for completion. Assessments cannot be considered "closed" until any violations of local laws and regulations are resolved and until the supplier has responded in writing with an action plan for improving management systems and policies to avoid future issues. We return to the facility within six to 12 months as required to confirm resolution of the issues. Suppliers that continue to be out of compliance with Ford expectations and/or local laws are at risk of being removed from Ford's supply base.

The audit tool that Ford uses with Tier 1 suppliers has been an important means for furthering our understanding of both the issues and the root causes for noncompliance. If issues are identified or allegations made of a sub-tier supplier, Ford makes 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 2013, we will continue to conduct supplier assessments across the target countries as necessary. We constantly monitor approaches developed by other organizations and industries in

We have conducted more than

800

assessments of Tier 1 suppliers in

20

countries on issues relating to ethics and working conditions

Related links

This Report

- Data: Working Conditions Training and Assessment Status for Supply Chain

order to incorporate what they have learned into our approach. We will continue to work with direct suppliers to help 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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1. This number has been revised from last year's report to address calculation errors.

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 is parts and assemblies used directly 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 they 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 other 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. This makes tracing the source of raw materials very challenging. We have analyzed several select raw materials to identify sustainability risks and opportunities related to extraction, use and end-of-life treatment.

Overall, 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 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' responsible sourcing policies and practices.
- Engaging with policy makers and global stakeholders. We have been invited by the U.S. State Department, the International Labour Organization, the United Nations Global Compact, the Organisation for Economic Co-operation and Development and the Interfaith Center for Corporate Responsibility to participate 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 the recycling of materials by maximizing the economic viability of recycling, where feasible.
- Seeking flexibility of supply through the proactive identification of potential supply and material alternatives. 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 responsible viable alternate source or material.

Public awareness of the potential and actual risks regarding raw material extraction has increased, due to investor interest, campaigns by nongovernmental organizations (NGOs), media coverage and greater access to information. In addition, there have been growing calls for transparency in raw material supply chains, in order to inform investors' evaluations of risk and to help governments and NGOs monitor and address key issues.

Communication is a key aspect of due diligence for responsible sourcing, and we are continuing to fine-tune all aspects of our communication in this area. Historically, we have voluntarily shared some information with stakeholders through direct communications and through this Sustainability

Report. We increasingly face mandates for public disclosure statements, such as those required by the California Transparency in Supply Chains Act of 2010 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 1502 (Conflict Minerals). This Sustainability Report will continue to be our primary means of communication with the general public and other stakeholders on supply chain sustainability. We also communicate our positions and requirements directly to our suppliers through our contract terms, written communications on our expectations, and regular supplier meetings. We reinforce our positions and expectations in communications between suppliers and Ford Purchasing and Quality personnel. We also hold training sessions on these issues at AIAG industry forums.

Certain raw materials are of particular concern to Ford, and in this section we address three areas in more detail:

- Conflict Minerals
- Forced labor and human trafficking in supply chains and the California Transparency in Supply Chains Act of 2010 (SB657)
- Rare earth elements

Conflict Minerals

Related links

This Report

- Materials Management

Conflict Mineral Reporting Requirements

On August 22, 2012, the U.S. Securities and Exchange Commission (SEC) adopted final rules to implement reporting and disclosure requirements concerning Conflict Minerals, as directed by Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. These rules require manufacturers that file certain reports with the SEC to disclose in a new "Form SD" filing whether the products they manufacture or contract to manufacture contain Conflict Minerals that are "necessary to the functionality or production" of their products – and, if so, whether these materials can be declared "conflict free."

"Conflict Minerals" currently include cassiterite, columbite/tantalite, and wolframite (the most common derivatives of which are tin, tantalum and tungsten, respectively) as well as gold, regardless of where these minerals are mined, processed or sold. (The U.S. Secretary of State may designate other minerals in the future.)

The requirements regarding Conflict Minerals were enacted to further the humanitarian goal of ending violent conflict and human rights abuses in the Democratic Republic of the Congo and surrounding countries (referred to as the Covered Countries [see map below]), which have been partially financed by the exploitation and trade of Conflict Minerals. We believe that the ultimate goal of Section 1502 is for all SEC filers to be able to certify that all Conflict Minerals from Covered Countries which are contained in products they manufacture or contract to manufacture have come from smelters and refiners identified as "conflict free" through the Conflict-Free Smelter assessment program (details at www.conflictfreesmelter.org). Ford supports the humanitarian goal of ending violent conflict and human rights abuses.

Starting in May 2014, Ford will be required to report annually to the SEC whether our products that contain Conflict Minerals are "conflict free." All suppliers globally that provide parts contained in Ford vehicles, service parts, or other parts sold by Ford are required to support this effort. Specifically, suppliers will be required to respond to an annual survey to identify whether products they manufacture or contract to manufacture for Ford contain any Conflict Minerals necessary to the functionality or production of their products. If any Conflict Minerals are contained in the affected product supplied to Ford, the supplier will be required to determine the country of origin of these materials and whether the Conflict Minerals can be identified as "conflict free," and to report this information to Ford.

Each supplier is likely to receive similar requests from multiple customers. Ford has been working closely with the Automotive Industry Action Group (AIAG) and our original equipment manufacturer (OEM) and Tier 1 colleagues to ensure maximum consistency (and minimum duplication of effort) in the reports requested from suppliers. We have recommended that our suppliers enroll in an AIAG training session to learn how to prepare and submit a report to disclose their companies' use of Conflict Minerals. We also have recommended that our suppliers refer to the Organisation for Economic Co-operation and Development (OECD) guidelines on Conflict Minerals whenever sourcing Conflict Minerals from Covered Countries.

Covered Countries for Conflict Minerals

back to top

Ford's Conflict Minerals Due Diligence Process

The OECD provides practical guidance to companies throughout the supply chain on a set of actions that can be taken to ensure responsible due diligence. Ford has found the OECD's guidance to be particularly useful in designing our own due diligence processes. We are currently working through the OECD's five-step process as part of our compliance efforts.

OECD Five-Step Process

Step 1:	Step 2:	Step 3:	Step 4:	Step 5:
Establish strong corporate management systems	Identify and assess risk in the supply chain	Design and implement a strategy to respond to identified risks	Third-party audit of smelters'/refiners' due diligence practices	Report annually on supply chain due diligence and outcomes

Ford's Actions to Date

Step 1:	Step 2:	Step 3:	Step 4:	Step 5:
Assigned accountability and cross-functional team; revised policy and supplier guides to address conflict mineral issues	Requiring supplier material content reporting and assigning prioritization of suppliers based on declared content	Balanced strategy of Ford and industry action to ensure robust sourcing policies, practices and reporting	Participation in the conflict-free sourcing program through the AIAG	Public disclosure in this Sustainability Report and planned SEC filing for 2013 calendar year

Multi-Stakeholder Collaboration

OECD: Ford provided input into the creation of the OECD Due Diligence Framework and participated directly in the pilot implementation phase with the OECD as well as indirectly through the AIAG.	Public–Private Alliance: Ford participates in the Governance Committee for the Public Private Alliance for Responsible Minerals Trade.	Multi-Stakeholder Initiative: Ford participates in the multi-stakeholder group of investors, companies and NGOs to explore common positions and advocate realistic solutions to the Conflict Minerals challenge.	AIAG: Ford participates in the Conflict Minerals Workgroup at the AIAG, which pursues common solutions for the automotive industry.

Ford's actions + Industry Collaboration = Greater Global Impact

back to top

Establishing Corporate Management Systems

Ford has established a cross-functional team to address the challenge of Conflict Minerals in the supply chain. This team is led by our Supply Chain Sustainability function within Global Purchasing and is supported by Ford departments including Product Development, Materials Management, Corporate Sustainability, Finance, Government Affairs, Public Affairs and the Office of the General Counsel. The Purchasing organization has the primary responsibility for working with suppliers to

obtain information on parts that may contain Conflict Minerals, as well as tracking and documenting Ford's progress and generating Ford's required reporting.

Since 2004, our Global Terms and Conditions with suppliers have expressly encouraged suppliers to adopt and enforce a Code of Basic Working Conditions similar to that which Ford has adopted and to have their subcontractors do so as well. We have provided guidance on supply chain due diligence and sourcing from conflict-affected and high-risk areas in our Supplier Social Responsibility and Anti-Corruption Requirements Web-Guide, which, like our basic working conditions requirements, is incorporated into our Global Terms and Conditions.

We engage with key suppliers on the topics of policy and management systems through our strategic supplier framework – the Aligned Business Framework [link]. Our ongoing work with these suppliers includes the development or enhancement of management systems for supply chain sustainability. It is important that we fully align with suppliers on the approach to responsible sourcing of raw materials.

back to top

Identifying and Assessing Risk in the Supply Chain

Since 2011, we have been asking our global production supply base to report their use of Conflict Minerals by material weight in our existing automotive industry database – the International Materials Database System (IMDS), which we use to track material content of our vehicles. Although the database tracks material content to monitor for the presence of certain regulated substances, it does not record information about the countries from which materials originated. We have used the database to assess risk in the supply base for the use of Conflict Minerals and to prioritize follow-up with suppliers for further information.

In 2012, we supplemented information collected through the IMDS with a Conflict Minerals-specific survey to begin to identify parts containing Conflict Minerals and their sources. We also are working with the AIAG in its efforts to develop and deploy the iPoint Conflict Mineral Platform (iPCMP), which facilitates the collection of raw material sourcing and smelter/refiner information to supplement materials information gathered through the IMDS.

As part of our due diligence efforts, we will be working with our suppliers throughout calendar year 2013 to ensure that the most accurate and complete information available is used for our Form SD filing due on May 31, 2014. Rather than waiting until year-end to survey the supply chain landscape, we have asked suppliers to provide interim sourcing information during the third quarter of 2013 so that we can perform an initial assessment of available information and prioritize our follow-up efforts as we prepare to assess full-year information, which is due from suppliers in January 2014.

Based on preliminary 2012 information-gathering efforts, about one-third of our production suppliers reported that Conflict Minerals are used in products supplied to Ford, and thousands of parts are impacted. Identifying the source countries of the Conflict Minerals in such a vast array of parts and through many tiers of suppliers will require intensive efforts by all involved. We are already engaged in due diligence to try to ensure the best possible output using the information available.

back to top

Responding to Identified Risks

We understand our assessment of risk to be an evolving process as more information is made available to our suppliers and to us about the supply chain routes that may ultimately lead to our vehicles. If, through our due diligence efforts, we discover that Conflict Minerals that cannot be confirmed as "conflict free" have made their way into our vehicles or service parts, we will immediately engage the supplier to pursue responsible conflict-free sourcing for all products supplied to Ford.

As part of the AIAG work group, we also are actively participating in and supporting the development of a conflict-free smelter program, which is designed to validate as "conflict free" those raw material processors that do not support armed conflict. As verified conflict-free smelter capacity becomes available, it is our intention to require suppliers to use only metals that can be confirmed as "conflict free."

back to top

Annual Reporting

We will continue to refine and improve our processes for implementing the necessary due diligence regarding Conflict Minerals. As we work with our suppliers, the automotive industry and other key stakeholders on this issue, we will continue to implement the OECD's Five-Step process. The final step in our process will be completion of the new SEC Form SD filing, which is required on an annual basis. We already report on our efforts in this Sustainability Report; in the future, we also will provide more specific data on our progress regarding material and smelter/refiner identification in our formal SEC reporting.

back to top

Forced Labor and Human Trafficking in Supply Chains

In the automotive industry, it is difficult to assure that the extraction and original production of raw materials is done responsibly, because these processes occur so far up our supply chain and, therefore, are far outside of Ford's direct control. Nonetheless, we are actively engaging with our industry, stakeholders and direct suppliers to address the risk of human rights abuses, including forced labor and human trafficking, deep in our supply chain.

A range of 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 nongovernmental organization (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.

California's New Transparency in Supply Chains Law

Beginning in 2012, many companies manufacturing or selling products in the state of California are 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, 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. We have instituted a number of actions to safeguard against human rights abuses, including forced labor. For example:

- We regularly assess risk related to our supply base. Our 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 our ongoing development work with them.

- Our Global Terms and Conditions forbid the use of forced labor, child labor and physically abusive disciplinary practices. Our definition of forced labor is inclusive of trafficking, and this was made explicit in the 2012 revisions to our Code of Human Rights, Basic Working Conditions and Corporate Responsibility. Ford's purchase orders require suppliers to certify compliance with our prohibition of forced labor, child labor and physical disciplinary abuse as part of our Global Terms and Conditions that govern the purchase by Ford of goods and services from suppliers. 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.

- We conduct training and capability building.
  - We regularly conduct internal training on our Code of Human Rights, Basic Working Conditions and Corporate Responsibility with our Global Purchasing staff, including management and supplier quality teams. Additional training is conducted regarding our Supply Chain Sustainability Program, including coverage of the Code and our Global Working Conditions Program, emphasizing the role of our buyers and supplier quality engineers in responsible decision making.

  - Ford requires suppliers in high-risk markets to attend training that increases awareness of Ford's requirements and legal requirements, including those related to forced labor and child labor. The training enables management systems that will ensure compliance over time. We conduct this training at Ford where necessary but increasingly with other automakers in the industry through the Automotive Industry Action Group (AIAG).

Related links

This Report

- Assessing Suppliers
- Building Supplier Capability through Localized Training and Collaboration

- Ford and five other automakers at the AIAG have funded and created a 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. This training is made available to all companies for free on the AIAG website.

- We regularly conduct 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 six to 12 months as required to confirm resolution of the issues. 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.

Charcoal and Pig Iron Production in Brazil: An Example of Our Efforts to Address Human Rights Abuses in Our Supply Chain

Ford's efforts to address human rights abuses in the production of charcoal and pig iron in Brazil illustrate our proactive approach to addressing human rights issues deep in our raw materials supply chain. 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 we continued dialogue with the supplier and helped them to develop management systems 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 to 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 Labour 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.

Pig Iron Producers

Rare Earth Elements

"Rare earth elements" are a set of 17 chemical elements in the periodic table. Though many of these elements are not actually rare, their geochemical properties make it difficult to find them in concentrated forms that can be extracted for use easily or economically. Rare earth elements have been used in conventional internal combustion vehicles for many years in small quantities. However, electrified vehicles – including hybrids, plug-in hybrids and full electric vehicles – use larger quantities of rare earth elements in magnets in their electric motors and in their more complicated battery systems. As electrified vehicle production increases, the importance of the supply and production of certain rare earth metals is growing in importance to automotive companies. These elements are also used extensively in nonautomotive applications, such as electronic touch screens and mobile phones.

Rare earth elements pose both economic and sustainability challenges. The growing demand for rare earths has called into question future supply and material costs. They are also a concern due to the geographic concentration of supply and environmentally unsustainable mining practices.

Ford's Approach to Rare Earth Elements

Ford has taken a proactive approach to understanding and minimizing the issues associated with rare earth elements in our vehicles. We began by assessing the amount of rare earth elements in our vehicles and where they occur. This is, in fact, a very challenging task because rare earths are used in small quantities, in a large number of components, and by suppliers far upstream in the supply chain. We estimate that approximately 0.44 kg of rare earths are used in a typical conventional sedan, with approximately 80 percent of the rare earth content in magnets. Conventional vehicles primarily use neodymium, which is used in batteries and magnets, and cerium, which is used mainly in catalytic converters. Relatively larger amounts of rare earths – primarily neodymium and dysprosium – are used in full hybrid electric vehicles (HEVs). A typical HEV sedan with a nickel-metal-hydride battery uses approximately 4.5 kg of rare earth metals. HEVs with lithium-ion batteries contain approximately 1 kg of rare earths. We are still evaluating the rare earth content in plug-in hybrid electric and full battery electric vehicles.

Our primary focus in addressing rare earth elements thus far has been to reduce the need for them in our electrified vehicle battery systems. Our third-generation hybrid system significantly reduces the use of rare earths compared to nickel-metal-hydride batteries and other lithium-ion battery systems. We have reduced the use of dysprosium by approximately 50 percent in the electric machine permanent motor magnets used in our hybrid system. This new technology reduces the cost of our hybrid systems by 30 percent, largely by reducing the use of dysprosium, which is the most expensive rare earth element used in electric motor magnets. The new system is also 50 percent lighter and 25 to 30 percent smaller than previous-generation hybrid batteries, contributing to better fuel efficiency. We expect this new hybrid battery technology will save up to 500,000 pounds of rare earth metals annually.

Related links

This Report

- Battery Technologies

Supply Chain Environmental Management

Ford has worked with our suppliers for decades to improve the environmental sustainability of their products and processes – and to gain their support in improving our own sustainability performance. We were the first automaker to require our suppliers to certify their environmental management systems to the globally recognized standard ISO 14001.

Today, we remain committed to providing suppliers with a range of support and assistance based on our expertise and experiences. We regularly engage with our suppliers on sustainability issues, and we have developed initiatives to improve our understanding of environmental impacts and practices in several areas, including greenhouse gas emissions, materials management and logistics.

Supplier Environmental Management

At Ford, our aim is to integrate sustainability throughout our supply chain. All of our "Q1," or preferred, production suppliers' facilities are expected be certified to ISO 14001, the leading global standard for environmental management systems. In addition, ISO 14001 certification is expected of 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 require their own suppliers to implement environmental management systems.

Our supplier contracts specify environmental requirements covering a range of issues, such as reducing or eliminating 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. (For more on our use of recycled materials, see the Sustainable Materials section.) We look for opportunities across our organization to purchase environmentally superior goods and services. For example, we now require 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 such as human rights, 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

As mentioned above, each Tier 1 manufacturing site providing parts to Ford is required to have ISO 14001 certification. And since 2012, our supplier training programs have included content on our expectations for environmental management (in addition to covering human rights and working conditions issues). We believe this will help build supplier capability to manage these issues effectively. This content expansion aligns our training activity with our updated Code of Human Rights, Basic Working Conditions and Corporate Responsibility and other supplier expectations and guidelines.

Engagement with Suppliers' Corporate Management

As part of our Aligned Business Framework (ABF), ABF suppliers commit to managing and ensuring responsible environmental management in their facilities and in their supply chain. We regularly address current and emerging environmental issues and solutions with ABF suppliers at periodic meetings and in regular communications. During the first quarter of 2012, we held our annual ABF sustainability meeting in southeast Michigan. The 2012 meeting included an update on the Ford supply chain greenhouse gas management initiative, including 2011 results, 2012 plans and peer-to-peer sharing.

Industry Collaboration

We work in industry forums to encourage common approaches to the supply chain challenges of our industry. For example, we have been integrating environmental sustainability and greenhouse gas management issues into our work with the Automotive Industry Action Group (AIAG), and a Ford representative co-chairs the AIAG Greenhouse Gas (GHG) work group. Through the AIAG, we helped to establish common industry guidance and a reporting format for GHG 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

Related links

External Websites

- ISO 14001

Scope 3 GHG emissions and related risks and opportunities at that time. Ford continues to be a leader within the automotive industry in supplier engagement on GHG emissions management and reporting. For more information on our supplier greenhouse gas program, please see Supplier Greenhouse Gas Emissions.

During 2012, Ford was an active participant in and sponsor of AIAG events. One such event was the Corporate Responsibility Summit: Today, Tomorrow, and Beyond; another was titled Conflict Minerals: An Industry Briefing. These forums brought together representatives from manufacturers, suppliers, governments and service providers across the automotive industry to review current sustainability-related issues, share best practices and review emerging issues. Sessions addressed topics such as corporate responsibility in the automotive industry, supply chain transparency and Conflict Minerals, GHG emissions estimation and reporting, and energy-reduction and efficiency techniques.

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.

Supplier Greenhouse Gas Emissions

We continue to work to better understand the carbon footprint of our supply chain, as well as the risks and opportunities of greenhouse gas (GHG) regulation and climate change for our suppliers and, by extension, for our Company. For our own products and operations, we have a comprehensive commitment and strategy to reduce GHG emissions, as detailed in the Climate Change section of this report, which enhances our competitiveness. We hope to help promote similar competitiveness throughout the automotive supply chain. The findings of our GHG emission surveys of suppliers, described below, suggest that many of our suppliers are already setting their own emissions-reduction goals or are considering doing so. We will continue to work with and encourage our suppliers to set their own energy-efficiency goals or GHG-reduction targets and to track our suppliers' GHG emissions management progress over time.

Ford's Supply Chain GHG Emissions Survey

In 2012, Ford again surveyed our suppliers regarding their GHG emissions. We began these types of surveys with a pilot project in 2010, and significantly expanded it in 2011 to include a wider range of suppliers and commodities. In 2012, we again expanded the program to include more suppliers. Our goal is to better understand the carbon footprint of our supply chain and to use the data to create a broad-based carbon management approach for our supply chain.

In 2012, Ford again surveyed suppliers using two separate questionnaires: the Supply Chain Program questionnaire of the Carbon Disclosure Project (CDP), and the GHG survey of the Automotive Industry Action Group (AIAG). The CDP's questionnaire gathers qualitative and quantitative information about the suppliers' management of climate risks and emissions. Based on suppliers' responses to this questionnaire in both 2011 and 2012, Ford was found to be a leader in all three major report categories: managing relationships with suppliers, developing and implementing a sustainable supply chain strategy, and managing risks and opportunities. The AIAG survey was developed with input from Ford, other original equipment manufacturers (OEMs) and Tier 1 suppliers and service providers. Ford used both questionnaires to capitalize on the strengths of each and to get the most complete picture of both qualitative and quantitative aspects of our suppliers' management of GHG-related issues and emissions. It is our intent to pursue a common industry questionnaire, and we are working toward this goal by sharing process learnings from the use of both forms with the CDP and the AIAG.

In 2012 we surveyed 135 suppliers, compared to 128 in 2011 and 35 in 2010. The 135 surveyed suppliers account for more than 50 percent of our $75 billion in annual purchases. Also in 2012, we again included logistics and information technology suppliers in addition to vehicle parts suppliers. Suppliers were chosen to participate based on a variety of criteria, including the following:

- The GHG intensity of the commodities supplied
- The nature of the business relationship with Ford
- The geographic footprint of the supplier's global operations

We achieved an overall response rate of 92 percent in 2012, again exceeding our internal objectives for this round of voluntary surveys. This response rate also significantly exceeds the average supplier response rate for all companies participating in the CDP's Supply Chain Program, which was 44 percent in 2011 and 39 percent in 2012. We believe that our high response rate is due in part to the active support and training Ford provided to suppliers throughout the process – support that included webinars, guidance documents and one-on-one assistance.

The findings from this year's survey are summarized in the box below. Overall, we continued to find that, for the most part, our suppliers are engaged in the issue of climate change and working to

Related links

This Report

- Climate Change

reduce their GHG emissions. However, there was still wide variability in suppliers' readiness to measure and report on GHG emissions.

Scope 3 Greenhouse Gas Accounting and Reporting

Scope 3 greenhouse gas emissions include all of the upstream and downstream emissions generated by a company's supply chain, from raw material extraction to end-of-life disposal or recycling. Assessing these emissions is extremely challenging, as it includes emissions generated by processes and entities far from Ford's own operations and direct suppliers. The World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) finalized a new Scope 3 (Corporate Value Chain) GHG Emissions Standard in 2011 to help companies with this difficult task. The standard provides a step-by-step methodology for companies to quantify and report their Scope 3 GHG emissions in 15 different categories of emission-generating activities across their entire value chain, upstream and downstream of their own operations. It is intended to be used in conjunction with the GHG Protocol Corporate Accounting and Reporting Standard, which provides companies with a methodology for reporting emissions from their own operations.

Ford road-tested the new Scope 3 protocol in 2010 as part of the WRI/WBCSD's development process. The direct supplier emissions we assess in our current supplier GHG surveys are only one element of the WRI/WBCSD Scope 3 standard. However, we are using elements of the WRI/WBCSD Scope 3 standard to assess our full supply chain emissions, to help us develop a comprehensive approach to supply chain emissions management, and to help our suppliers develop GHG management plans. We are currently working to integrate our supplier GHG survey results into a broader analysis of complete Scope 3 GHG emissions.

Some Key Findings from Our 2012 Supplier GHG Survey

Of the suppliers responding...

A large majority of suppliers have developed management and governance structures to address climate change.

Nearly

90%

have a person or committee that is directly responsible for managing climate change issues within their company.

Nearly

80%

have integrated climate change management into their overall business strategy.

A large majority of suppliers have active greenhouse gas emissions-reduction programs.

More than

65%

have set greenhouse gas emissions-reduction targets (an increase from 2011), and more than 75 percent have active emissions-reduction initiatives. In general, more Ford suppliers responded that they have set intensity-based targets than absolute targets.

A majority of suppliers track and report on their greenhouse gas emissions.

More than

65%

publicly report their greenhouse gas emissions.

Suppliers are working to provide their customers (e.g., Ford) with ways to reduce their overall supply chain GHG emissions.

About

50%

have a strategy for engaging their own supply chain on GHG emissions issues.

More than

60%

are reporting Scope 3 emissions; however, there is still variability in the completeness of the 15 Scope 3 emissions categories they report.

In 2013, we will again survey a slightly expanded group of suppliers and work with them closely to ensure improvements in data quality that will result in a more robust baseline of emissions data. We will also continue reviewing survey results and prioritizing opportunities to partner with select suppliers on energy-efficiency training and management programs when possible.

In 2013, we will again survey a slightly expanded group of suppliers and work with them closely to ensure improvements in data quality that will result in a more robust baseline of emissions data. We will also continue reviewing survey results and prioritizing opportunities to partner with select suppliers on energy-efficiency training and management programs when possible.

back to top

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 plastic 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, 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, Finland. 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. In 2011, Japan also adopted REACH-like regulations to manage their chemicals. South Korea will adopt REACH regulations in 2013 and will begin implementation in 2015. 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. The state of California is in the process of finalizing a Safer Consumer Product (green chemistry) law, scheduled to take effect in 2013, which will require manufacturers of selected products sold in California to identify safer alternatives to a potential range of 1,200 chemicals known to be harmful to public health and the environment. The California law will also phase in a requirement that manufacturers whose products contain listed chemicals of concern must conduct an alternative material assessment and replace the chemicals of concern with safer alternatives. Or, they must explain to state regulators why the chemicals of concern are needed and warn consumers or undertake steps to mitigate the public's exposure to those substances. 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.

Governments are also developing and implementing regulations governing the use of Conflict Minerals. In August 2012, for example, the U.S. Security and Exchange Commission (SEC) issued a final ruling for Conflict Minerals regulations. The increasing focus on Conflict Minerals and other critical 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. Ford is working with other affected companies and industries to develop processes for collecting Conflict Minerals use and source information. Working with the Automotive Industry Action Group (AIAG), Ford developed the iPCMP (iPoint Conflict Mineral Platform) tool for the auto industry and other industries to collect Conflict Mineral information from suppliers. Ford's existing materials management tools have also been instrumental to our ability to collect and analyze information about Conflict Minerals in our own products and supply chain. (See the Sustainable Raw Materials section for more detail on Ford's approach to Conflict Minerals.)

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

Related links

This Report
- Sustainable Materials
- Conflict Minerals

External Websites
- REACH

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. Thirty-two 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. Ford is also leveraging the IMDS to identify risks associated with Conflict Minerals and other critical raw materials.

Ford vehicle programs use 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 end-of-life vehicle directives in the EU, South Korea, China, Taiwan and Japan; REACH in the EU and other countries; and recent Conflict Mineral and other critical raw material reporting initiatives. The IMDS will also provide essential data and information needed to meet the incoming California Safer Consumer Product (green chemistry) law.

To further help our suppliers manage their materials and substance data, Ford developed and launched the 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 our suppliers. In 2012, Ford also conducted Conflict Mineral-specific surveys through the GMIR Supplier Portal to identify affected parts suppliers and effectively deal with the very complex Conflict Minerals regulation.

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 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 the REACH legislation, Ford has developed additional systems to track and manage the use of chemicals. And, 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 task force. Ford is also the chair of the AIAG'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 task force 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 and ensures Ford will comply with REACH and similar regulations.

Logistics

ON THIS PAGE

Ford's physical logistics operations provide the safe and efficient transport of parts from our suppliers 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 accounts for a relatively small percentage of our vehicles' total 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 designing and operating our global transportation networks and for engineering high-quality and efficient packaging to protect parts in transit.

Green Logistics

We focus our green logistics efforts on three areas:

1. reducing our freight greenhouse gas (GHG) emissions,
2. reporting on those emissions and
3. improving the environmental footprint of packaging materials used to transport parts and vehicles.

Since freight emissions and fuel usage are so closely tied, our focus on emissions reduction also encourages actions that help us achieve other environmental goals as well, such as improving air quality and reducing traffic flows.

Ford MP&L has an international team to coordinate our green logistics activities. We have subject-matter experts in each of our four operating regions (Europe, North America, Asia Pacific and Africa, and South America), and we have a central green logistics intranet site to assist in standardizing our procedures and communicating best practices.

back to top

Freight GHG Emissions Reporting

Understanding and quantifying our freight carbon dioxide (CO_2) emissions is important 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 to respond to customer inquiries

We began to develop CO_2 tracking and reporting metrics in 2006 for our European operations in conjunction with our European lead logistics provider, DHL. Since then, we have expanded our reporting to include transportation networks in North America, South Africa, India and Australia. We have also expanded our reporting to include additional modes of transportation. For example, we now include CO_2 emissions reporting for ocean freight, using methods developed by our transatlantic lead logistics provider, UTi, as well as ground transportation.

We are also now collecting GHG emissions data and reporting internally for all our regions. This data is included in our global performance scorecard, which is regularly reviewed by senior management. In 2012, we began collecting freight emission data in China from our joint venture, Changan Ford, and its trucking providers. Early results from this effort, which includes both inbound and outbound logistics, suggest emissions are being reduced per vehicle shipped.

We continually review the latest international best practices to improve the quality of our reporting. Based on these best practices, we now track non-GHG emissions such as nitrous oxide (N_20) and methane in our overall GHG emissions estimates. We also continually update our data sources. For example, in 2012 we began using newly published CO_2 data from the Clean Carrier Working Group to improve the accuracy of our ocean freight emission calculations.

Tracking transport emissions allows us to study the impacts of different sourcing patterns. Our MP&L function is working closely with Purchasing on value stream mapping projects to help us compare the transportation and manufacturing footprints in different source locations.

Ford has taken an active leading role in supporting the development of reporting processes for automotive freight emissions. In 2011, we were a road-tester of the World Resource Institute and the World Business Council for Sustainable Development's new Greenhouse Gas Protocol Scope 3 reporting standards, which cover freight CO_2 reporting. We have since worked with the Automotive Industry Action Group (AIAG) in North America to encourage others in the industry to adopt these processes and provide relevant training. In Europe, we are part of the UK Department for Transport's Low Carbon Transport Supply Chain Steering Group, which published Guidance on Measuring and Reporting Greenhouse Gas Emissions. We also lead a project for Odette to publish common guidelines for freight CO_2 reporting for the European automotive industry. In Asia, we participated in the inaugural Green Freight China seminar in Beijing, run jointly by Clean Air Asia and the Chinese government.

We believe it is important for our logistics providers to have policies on CO_2 issues. Since 2011, we have involved our major North American and European logistics service providers in our annual Carbon Disclosure Project Supply Chain Survey as part of our effort to encourage them to have strategies to improve the sustainability of their operations.

For more information on our supply chain greenhouse gas initiatives, please see Supplier Greenhouse Gas Emissions.

back to top

Freight Emissions Reduction

The efficient design and operation of our networks is key to improving the environmental footprint of our freight transportation. There is a direct correlation between using greener modes of transport (such as rail and water) and reducing emissions and miles traveled, as well as increasing vehicle utilization.

In general, we contract and manage our own freight networks rather than have freight contracted by our suppliers. This gives us better control and allows us to optimize collections and deliveries across all pick-up points and destinations, minimizing the total amount of transport required.

Our freight emissions-reduction efforts generally focus on reducing the number of vehicle miles traveled to deliver our inbound parts and outbound vehicles, as well as improving route efficiencies and switching to lower-emission transport methods. Some of the specific strategies we use to reduce freight emissions include:

- Using regional distribution centers to coordinate deliveries and reduce the number of vehicles collecting materials from suppliers that are destined for multiple factories
- Using "milk run" routes, where groups of collection points can be visited by a single truck, to minimize the number and length of journeys required
- Developing contracts with our freight providers that encourage them 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
- Maximizing the use of lower-emission transport methods such as rail, river and short sea

transport, to reduce fuel costs, emissions and road congestion. It has been estimated that switching from road to rail can reduce CO_2 emissions by 40 percent.

- Using “SWAP bodies” – standard freight rail containers that can be lifted onto dedicated road trailers to expand our ability to use rail freight where possible on a given journey and road transport as needed
- Improving load density, or the number of finished vehicles carried per conveyance, which lowers the number of conveyances employed and reduces the amount of fuel consumed
- Reducing the emissions of our transportation fleet through the use of alternative fuels and engine technologies, improving vehicle aerodynamics, and training drivers on more fuel-efficient driving practices
- Maximizing trailer loading efficiencies and minimizing packaging so we can carry more cargo with fewer trips

back to top

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 has environmental impacts throughout its lifecycle, including materials usage, transportation 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 many 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, for example, we are introducing dedicated designs that include foldable internal packaging that avoids the need for disposable material. 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 into 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 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 considerable savings in emissions.

We are now working globally to share best practices between regions and 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.

back to top

The Evolution of Green Logistics

Going forward, we will continue to expand our logistics-related CO_2 reporting and reduction initiatives. Within Ford MP&L, environmental considerations form a key part of our business plan, with metrics in place and with objectives to introduce more rail and short sea routes instead of road freight. We are actively establishing 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.

back to top

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 at least 10 percent of U.S. purchases from minority- and women-owned businesses. In 2012, Ford purchased $5.7 billion in goods and services from approximately 250 minority-owned suppliers and $1.2 billion in goods and services from more than 150 women-owned businesses. Our 2012 results demonstrated the third consecutive year of improvement and exceeded our sourcing goals for both minority- and women-owned suppliers.

Ford launched its Supplier Diversity Development program in 1978 with the goals of supporting minority- and women-owned businesses, creating business opportunities for diverse suppliers to grow into profitable enterprises and further strengthening the Ford supplier network to reflect the Company's workforce and customer base. Ford's minority- and women-owned suppliers are playing an important role in the Company's revitalized and expanding portfolio of high-quality, safe, fuel-efficient products equipped with smart technologies. The following are examples of the success of our supplier diversity program over the last year:

- Advanced Logistics Operations & Manufacturing (ALOM): ALOM, a woman-owned business, managed the delivery of a SYNC® software upgrade for MyFord Touch® to thousands of Ford customers. SYNC with MyFord Touch is Ford's industry-leading connectivity and communications system available on most Ford and Lincoln products.

- Devon Industrial Group: In 2011, Ford awarded Devon Industrial Group, an African-American-owned company, one of Ford's largest construction services contracts spanning a three-year period. In 2012, Devon supported multiple projects, ranging from providing preconstruction services to managing facility renewal projects and decommissioning activities at locations in the U.S. and Canada.

- Detroit Manufacturing Systems (DMS): Ford sourced some vehicle interior production to DMS, a new joint venture between Faurecia and Rush Group Ltd., which was founded in 2012 as part of the Rush Group of companies, one of Ford's largest minority- and women-owned suppliers. DMS provides injection molding, assembly and sequencing of interior trim parts. About 500 people are expected to be employed at the new DMS facility in Detroit.

- Detroit Thermal Systems (DTS): DTS – a joint venture between Valeo and V. Johnson Enterprises, a minority-owned supplier – is producing climate-control systems and components for the automotive industry, including supporting current product supply commitments to Ford. Ultimately, DTS is expected to employ approximately 500 people.

- Flex-N-Gate Corporation: Flex-N-Gate, a minority-owned company located in Urbana, Illinois, is one of the first examples of Ford's Joint Technology Framework (JTF) initiative. JTF is a special program aimed at improving suppliers' technical expertise through access to the Company's intellectual assets and other support. Flex-N-Gate technology is available on the 2013 Ford Fusion and Lincoln MKZ.

- Husco Automotive Technologies: Husco, a Hispanic-owned company based in Waukesha, Wisconsin, was added to Ford's list of preferred, Aligned Business Framework (ABF) suppliers. Husco produces actuators used for variable-camshaft-timing components across various Ford vehicles.

- SET Enterprises: In 2012, SET Enterprises, an African-American- and veteran-owned company, was awarded new blanking business, which is part of the sheet metal production process, for the Ford Transit. SET is a strategic "blanker" for Ford's Chicago Stamping Plant and a preferred "master coiler" in the U.S.

Related links

This Report

» Data: Purchases from Minority- and Women-owned Businesses

In 2012, Ford was honored as Corporation of the Year by the National Minority Supplier Development Council. It is the fourth time in a quarter-century that Ford has received this honor, which recognizes the Company's commitment to minority-, women- and veteran-owned businesses and job creation.

In addition, Ford was named 2012 Corporation of the Year by the Michigan Minority Supplier Development Council (MMSDC). Ford is the first automaker to garner this award for three consecutive years, which underscores the Company's commitment to developing and growing a diverse supply base.

Our record of minority supplier development has earned Ford a seat at the "Billion Dollar Roundtable" (BDR), an exclusive group of 18 companies that purchase a minimum of $1 billion annually from diverse suppliers. The BDR encourages corporate entities to continue growing their supplier diversity programs by increasing commitment and spending levels each year. For the second consecutive year, the U.S. Hispanic Chamber of Commerce named Ford to its Million Dollar Club for our work with Hispanic-owned businesses. In December 2012, Ford was recognized as the Michigan Hispanic Chamber of Commerce's Member of the Year.

Ford was also named as one of America's top corporations for its support of women-owned suppliers. The Women's Business Enterprise Council selected Ford for its 13th annual listing of America's Top Corporations for Women's Business Enterprises. This is the only national award honoring corporations for world-class programs that level the playing field for women's business enterprises to compete for corporate business. Ford became the first automaker to earn top honors for supporting women-owned businesses.

Ford earned these awards for developing and driving innovative best practices across our organization that result in productive business partnerships with minority and women entrepreneurs and valuable products and services for their customers.

We are unwavering in our commitment to incremental year-over-year percentage increases in sourcing from diverse suppliers. We encourage similar actions across our supply chain. In 2012, more than 400 of our largest Tier 1 suppliers purchased $2.1 billion from minority- and women-owned enterprises in support of Ford business.

Data

DATA ON THIS PAGE

A. Working Conditions Training and Assessment Status for Supply Chain

Working Conditions Assessments (as of 12/31/12)	Americas	Asia Pacific and Africa	Europe	Global Total
Average violations per assessment	13.4	11.8	13.3	12.4
Assessments completed to date	257	484	70	811
Follow-up assessments completed to date (third party and/or internal)	371	514	98	983
Working Conditions Training (as of 12/31/12)	**Americas**	**Asia Pacific and Africa**	**Europe**	**Global Total**
Training sessions conducted to date	69	56	17	142
Total number of attending companies	846	903	343	2,092
Total number of trained managers (attendees)	1,478	940	342	2,760

Working Conditions Training (Scope of Impact: Supplier-Submitted Data as of 12/31/12)	Global Total
Training cascade to management, individuals trained	24,965
Training cascade to workforce, individuals trained	430,257
Communication to suppliers, number of sub-tier companies	84,710

Notes to Data

Prior-year 'Assessments completed to date' figures reflect calculation errors in deriving totals. These errors have been corrected for 2012; however, certain figures may be slightly lower than in prior years due to the calculation corrections.

Related Links

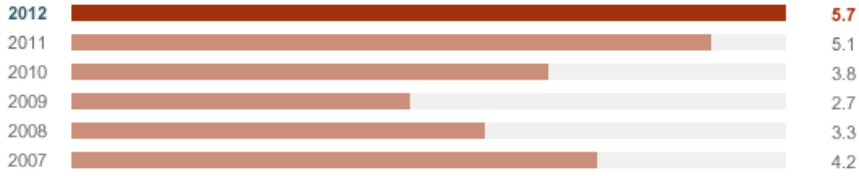
This Report:

- Human Rights in the Supply Chain: Ford's Global Working Conditions Program

back to top

B. Total Purchases from Minority-owned Businesses – United States

$ billion



2007	2008	2009	2010	2011	2012
4.2	3.3	2.7	3.8	5.1	5.7

Notes to Data

From 2003 to 2007, purchases from non-minority, women-owned businesses were included within total purchases from all minority suppliers. Beginning in 2008, we provided separate data for women-owned businesses, which accounted in part for the reduced amount of purchases in 2008.

Analysis

In 2012, Ford purchased $5.7 billion in goods and services from approximately 250 minority-owned suppliers and $1.2 billion in goods and services from more than 150 women-owned businesses. Our 2012 results demonstrated the third consecutive year of improvement and exceeded our sourcing goals for both minority- and women-owned suppliers.

Related Links

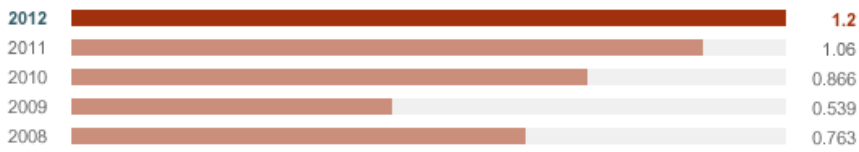
This Report:

» Supplier Diversity Development

back to top

C. Total Purchases from Women-owned Businesses – United States

$ billion



2008	2009	2010	2011	2012
0.763	0.539	0.866	1.06	1.2

Notes to Data

From 2003 to 2007, purchases from non-minority, women-owned businesses were included within total purchases from all minority suppliers. In 2008, we began breaking out separate data for purchases from non-minority, women-owned businesses.

Analysis

In 2012, Ford purchased $5.7 billion in goods and services from approximately 250 minority-owned suppliers and $1.2 billion in goods and services from more than 150 women-owned businesses. Our 2012 results demonstrated the third consecutive year of improvement and exceeded our sourcing goals for both minority- and women-owned suppliers.

Related Links

This Report:

- Supplier Diversity Development

back to top

Patricia Jurewicz

Director
Responsible Sourcing Network

When it comes to supply chain issues, I've had the opportunity to be on different sides, looking at problems from a policy perspective, a corporate perspective and a grassroots advocacy perspective. As a result, I've learned that it's critical to take a multi-stakeholder approach to human rights abuses.

Consumers – especially younger generations – are becoming increasingly aware of global issues and want to know that accountability mechanisms are incorporated into the products they are purchasing, from cell phones to clothing to cars.

Here at the Responsible Sourcing Network, we are especially concerned about the violence and exploitation in the Democratic Republic of the Congo (DRC) that is fueled by revenues from the mining industry. The four "conflict minerals" – tin, tantalum, tungsten and gold – are embedded in today's consumer electronics and other goods, making the related supply chain problems ubiquitous and enormously complex to solve.

This is similar to what automakers faced a few years ago with charcoal from Brazil. Forced labor was found to be occurring far back in the supply chain at the charcoal level, which was then used in steel and eventually appliances, cars and trucks. Ford worked with the Automotive Industry Action Group (AIAG), government agencies and a local NGO to identify suppliers and have them stop purchasing charcoal made using forced labor. For conflict minerals, the auto industry has had an easier time addressing the issue, because the electronics and telecommunications (ICT) industries had already begun initiatives to trace these minerals to their origin.

While the auto industry was a bit slow in joining efforts to push for solutions in the DRC, I do give it credit for figuring out an industry-wide solution that would meet its needs. Through its work in the AIAG, Ford has been a leader in developing a traceability system for the entire industry. Ford is also active in our multi-stakeholder group and legislative efforts.

Now I would like to see the auto industry do more to encourage smelters to go through the auditing and verification process that was established by the ICT industries. The auto industry can have enormous influence on smelters of tin, which is used in many automobile components. Automakers should use their influence to push for accountability. Smelters need to hear that abuses linked to their raw materials will not be tolerated.

I want to emphasize, however, that companies should not simply ban all materials coming out of the DRC. We feel strongly that jobs – good, safe jobs – are needed in the region. We want companies to support efforts that certify mines, so we know that they are free of forced and child labor, and then to use the certified conflict-free minerals in their products.

Global companies must have transparent and accountable supply chains. They should be able to know where their raw materials originate and under what conditions they are being mined or processed – as I often say, "all the way down to the dirt." From a diplomatic and policy perspective, the U.S. Securities and Exchange Commission helped to level the playing field when it issued its Conflict Mineral Section 1502 reporting rule. Now all companies are required to disclose where their materials come from.

The U.S. government, regional governments and the United Nations can all do more to encourage

peace and stability in conflict zones like the DRC. Corporations can encourage governments and international institutions to do their part to stabilize the region. When governments, human rights groups, investors and corporations are aligned and working together, they can shift revenues away from the human rights abusers and help end the conflict.

Companies today are looking at human rights issues more holistically and deeper in their supply chains than ever before. Businesses recognize that it's in their best interests to have vibrant, secure, stable and thriving economies where their materials are sourced. That's a big evolution from a few decades ago when companies would say: "We're not running that factory or those operations, so they're not our responsibility."

One company can't do much on its own to impact human rights abuses at the "dirt" level of its supply chain. But by working together with an entire industry, that single company can initiate real change.