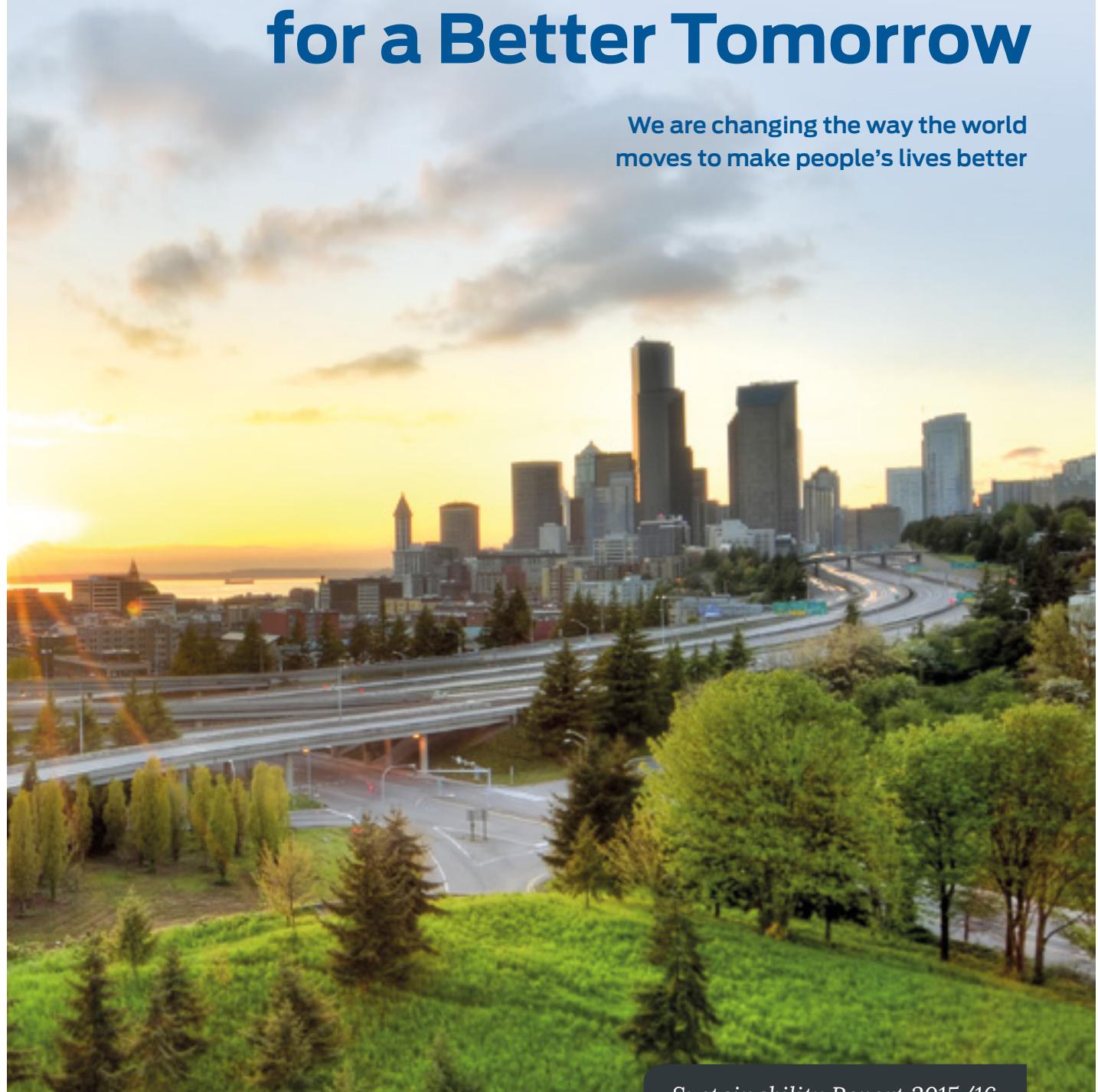




Accelerating Today for a Better Tomorrow

We are changing the way the world
moves to make people's lives better



Sustainability Report 2015/16

SUSTAINABILITY AT FORD

Transforming Ford into an automotive and a mobility company.

"Change is upon us. We are reinventing this company in ways that will make it incredibly relevant for the next 50 years."

William Clay Ford Jr.
Executive Chairman

Letter from William Clay Ford Jr. and Mark Fields

Contributing to a better world always has been a core value at Ford, and our commitment to sustainability is a key part of our company DNA. Ultimately, our vision is to make people's lives better by changing the way the world moves, just as Henry Ford did more than a century ago.

That's why, in one of the most significant strategic shifts in our history, we are expanding our business model to be both an auto and a mobility company. Our strategy involves continually strengthening and investing in our core automotive business, while aggressively pursuing new emerging opportunities through Ford Smart Mobility – our plan to be a leader in connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics. As we continue to produce world-class vehicles, we are using innovative thinking and advanced technology to solve tomorrow's biggest transportation challenges today.

While our industry – and the world around us – continues to evolve faster than ever, our entire team remains fully committed to keeping sustainability at the heart of our strategy. To achieve our sustainability goals, we will continue to drive innovation in every part of our business and maximize our environmental performance. For example, we continue to lead industry efforts to tackle the issue of human rights and enhance working conditions throughout our supply chain.

We also know that our sustainability efforts today can bring about a better tomorrow:

- We are investing \$4.5 billion in electrified vehicle (EV) solutions and will add 13 new EVs to our portfolio by 2020
- Our continued investment in lightweighting technologies is helping us reduce overall vehicle weight and improve fuel economy
- Ford is the only automaker named to the World's Most Ethical Company® list by Ethisphere Institute, and we have made the list for seven consecutive years
- Ford also was named one of the world's Best Global Brands in 2015 by Interbrand
- We earned an "A" grade for our water conservation efforts from CDP
- By sharing best practices through our Partnership for a Cleaner Environment (PACE) program, we are lowering the collective environmental footprint of our entire supply chain

IN THIS SECTION

- [Letter from William Clay Ford Jr. and Mark Fields](#)
- [Sustainable Business Strategy](#)
- [Key Sustainability Strategies](#)
- [Our Value Chain Impacts](#)
- [Prioritizing Key Issues](#)
- [Performance and Reporting](#)
- [Regional Reports](#)

- We celebrated the 10-year anniversary of the Ford Volunteer Corps with a Global Month of Caring, and launched new programs to develop our next generation of philanthropic leaders and to offer employees funding for new community projects

With sustainability deeply embedded in our overall strategy, we remain committed to running a strong and responsible business that treats our customers, our employees, our communities and our planet with respect.

William Clay Ford Jr.
Executive Chairman

Mark Fields
President and Chief Executive Officer

Sustainable Business Strategy

Our strategy has one foot in today and one foot in tomorrow – encompassing our core business as an automaker and new opportunities in mobility.

Reinventing Ford: Automotive and Mobility

MAKING PEOPLE'S LIVES BETTER



Ford's vision is people working together as a lean, global enterprise to make people's lives better through automotive and mobility leadership.

We are continuing to invest in and strengthen our core business of designing, manufacturing, marketing, financing and servicing cars, SUVs, trucks and electrified vehicles.

At the same time, we're aggressively pursuing emerging opportunities through Ford Smart Mobility – our plan to be a leader in connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics.

In our journey to become an auto company and a mobility company, consumers are at the heart of our approach. Through new mobility offerings, we're transforming how we interact with our customers to provide them a great experience.

Why Change?

Ford makes great vehicles but that's no longer enough. To be successful 50 years from now, we need to adapt and transform to meet the challenges of a fast-changing world.

Technology

Digital technology and the sharing economy are disrupting traditional patterns of car use and ownership

Air Quality

Congestion and air quality affect millions of people every day in cities across the globe

Emissions

Vehicles and other forms of transportation emit greenhouse gases and contribute to climate change

Ford is responding to these global trends and challenges by leveraging our core strengths in automotive while driving innovation to create mobility solutions of the future

Creating Value

If we get it right, there are tremendous opportunities.

Ford's strategy is not only to create profitable growth and economic value. The journey to become both an auto and a mobility company gives us important opportunities to foster human progress and sustain the environment.

For instance, as we continue to improve the fuel economy and greenhouse gas emissions performance of our vehicles, our vision is to make Ford Smart Mobility solutions accessible to as many people as possible; helping individuals use different forms of transportation – not only cars and trucks – easing congestion, improving air quality and democratizing sustainable ways to move around.

Delivering Our Strategy

We're challenging ourselves to transform and be prepared for the future by accelerating our One Ford plan, by implementing our Blueprint for Sustainability and by following our Creating Value Roadmap.

A Unified Approach

Each plan supports the others to drive corporate goals and generate sustainable, profitable growth.

Ford Plans

- One Ford plan
- Blueprint for Sustainability
- Creating Value Roadmap

Great Products

A full family of vehicles with best-in-class quality, fuel efficiency, safety and smart design

Strong Business

A business well positioned for sustainable success

Better World

Addressing global environmental and social challenges including climate change, water scarcity and natural resource depletion

Our One Ford Plan

The strategic priorities of our One Ford plan are to:

- Ensure our company is structured to operate profitably at the current demand and changing model mix

- Accelerate the development of new products, services and experiences that customers want and value
- Finance our plan and maintain a strong balance sheet
- Work together effectively as one team, leveraging Ford's global assets.

Our Focus Areas

One Ford

Acceleration

Product Excellence

Delivered with Passion

Innovation

In Every Part of Our Business

Our Blueprint for Sustainability

Our Blueprint for Sustainability complements our One Ford plan. It focuses on our products and environmental footprint, and encompasses strategies for addressing global issues linked to economic development, social sustainability, energy security and environmental sustainability.

As we continue to execute our One Ford plan, our Blueprint for Sustainability ensures that we also deliver our pledge to create a better world.

Alignment around our plans and policies is key to leveraging the company's full potential to drive value and address global sustainability issues. With this in mind we have initiated an engagement program to integrate sustainability across the organization.

Our Creating Value Roadmap

Our Creating Value Roadmap is an internal process and an operating philosophy. We use it to develop strategy, adapt to change and ensure that we contribute to all forms of capital:

- Economic capital – delivering return on investment and creating new jobs
- Social capital – working in our communities to increase opportunities and improve quality of life
- Environmental capital – developing greener products and operating with environmental efficiency

Read more about the [key business processes](#) we use to deliver our strategy, including our Creating Value Roadmap.

Integrating Sustainability

Developing and executing integrated sustainability strategies globally means we can drive value creation consistent with the long-term preservation and enhancement of environmental, social and financial capital.

Our Objectives

In 2015, we initiated a program to:

- Enable better communication and full engagement on sustainability across the enterprise
- Achieve alignment on Ford's Integrated Sustainability vision across business units and functional skill teams, looking for best practices and efficiencies
- Inventory sustainability initiatives across business units and functional skill teams and determine where to go further
- Establish a global integrated sustainability operating system

"Going Further – The Right Way is how we express Ford's sustainability agenda. Setting and working toward stretch targets is our way of embracing the sustainability opportunities and challenges that we face as a company, and as a society. How we get there relies as much on human energy and ingenuity as it does on a rigorous scientific approach. This is why I consider it vital to engage our entire workforce in the endeavor of integrating sustainability across the whole organization and creating a better world."

Kim Pittel

Vice President, Sustainability, Environment and Safety Engineering

A Phased Approach

2015 – 2017

Inventory Sustainability Initiatives Globally

Skill team and region:

- Quality
- Purchasing
- Manufacturing
- Product Development

2017 – 2018

Identify and Develop Synergies

Leverage action plans to enable full engagement of sustainability strategies across the enterprise

2018 – 2020

Execute Sustainability Strategies

- Products and operations with net zero or positive impact by 2050
- Sustainable, affordable mobility: technologies, smart products, services
- Strategic social investments into communities
- Thought leadership, policy advocacy, innovation, collaboration

Our Actions

So far, our engagement with skill teams is generating enthusiasm and reinforcing the plan to continue our rigorous Sustainability Integration effort.

We've begun developing the inventories of our actions that relate to Sustainability, and making those connections is the foundation for engaging the entire work force.

We successfully tested the approach in a European pilot initiative where each major skill team presented its status of sustainability actions and outlined its short-, mid- and long-term sustainability strategies and plans.

Key Sustainability Strategies

The strategies summarized below are key elements of our Blueprint for Sustainability. They reflect strategic priorities that are particularly relevant to our company and stakeholders.

Strategies to Address Material Issues

Some areas of sustainability, known as material issues, are very significant for Ford – not only because of the risks and opportunities they represent for our company but also because we can contribute solutions and go further by doing the right thing.

Climate Change

Our science-based climate change strategy is based on doing our part to stabilize the atmospheric concentration of carbon dioxide (CO₂) at 450 parts per million (ppm). This is the level that many scientists, businesses and governmental agencies believe may avoid the most serious effects of climate change.

Ford Smart Mobility

Our Ford Smart Mobility plan sets out our contribution to sustainable mobility based on an analysis of population growth, urbanization and other key societal and economic trends.

Our goal is to make mobility affordable in every sense of the word – economically, environmentally and socially – and to provide seamless mobility for all.

Water Stewardship

We have adopted a comprehensive water strategy that corresponds to the key elements of the CEO Water Mandate.

Our water strategy is designed to deliver positive impacts that are substantial, sustainable and measurable, in our own facilities and in the communities where we operate.

Human Rights

Our human rights strategy includes adherence to our Code of Human Rights, Basic Working Conditions and Corporate Responsibility (Policy Letter 24), in our own operations and in those of our suppliers.

We were the first automaker to recognize that the protection of human rights in our operations and our supply chain is an important sustainability issue.

Climate Change Strategy

Our greenhouse gas (GHG) emission-reduction goals are based on scientific consensus about the process of climate change, while also taking public policies and regulations into account.

Our Science-Based Strategy

The current atmospheric concentration of CO₂ is approximately 402 ppm.¹ Globally, light-duty trucks and passenger vehicles contribute about 12 percent of all fossil fuel CO₂ emissions.²

Our climate change strategy and goals are based on stabilizing the global atmospheric concentration of carbon dioxide (CO₂) at 450 parts per million (ppm), the level that many scientists, businesses and government agencies believe may avoid the most serious effects of climate change.

We have developed a CO₂ model incorporating "glide paths," which are specific reduction targets for Ford products and facilities in all our major operating regions.

In 2016 we will begin a second update of our model, evaluating and incorporating the state-of-the-science findings from the Intergovernmental Panel on Climate Change (IPCC) assessments, and the recent COP21 Paris agreement.

1. E. Dlugokencky and P. Tans, NOAA/ESRL (www.esrl.noaa.gov/gmd/ccgg/trends/) accessed May 2016.

2. International Energy Agency (IEA), *Energy Technology Perspectives 2014* (Paris, France: IEA, 2014). ETP2014 transport summary and scenario summary online data.

Key Goals

Our Products

- Across our global product line-up, we will **improve fuel economy** consistent with regulatory requirements, by doing our part for climate stabilization. We translate the stabilization goal into **specific CO₂ reductions** for each of our regional vehicle fleets, taking into account sales growth
- We will achieve these goals through ongoing product development to provide consumer choice, including:
 - Offering **competitive or “among the leaders” fuel economy** for each new or significantly refreshed vehicle
 - Offering **alternative fuel vehicles**
 - Maintaining our leadership in **lightweighting**
 - Pursuing our **electrification strategy**

Our Facilities

We have applied the CO₂ methodology to our facilities also, resulting in GHG emission-reduction targets for our worldwide manufacturing operations.

Globally, we will reduce our facility CO₂ emissions by 30 percent from 2010 to 2025 on a per-vehicle basis and reduce average energy consumed per vehicle produced by 25 percent from 2011 to 2016 globally.

[Read about progress toward these goals across our product lineup and manufacturing facilities](#)

A Holistic Approach to the Challenges

A changing global climate has far-reaching impacts for the environment, our business and society. We also recognize that climate-related impacts are linked to other important issues, from water availability and energy security to human rights.

These challenges require a holistic approach. We work with industry partners, energy companies, consumer groups and policy makers to advance solutions, and establish an effective and predictable market, policy and technological framework for reducing GHG emissions.

We base our approach on a number of principles:

- Technical, economic and policy approaches need to recognize that all CO₂ molecules (or GHG equivalents) produced by human activities contribute to the greenhouse effect, regardless of their source. However, the cost of reducing those emissions varies significantly depending on their source. While we as a society should attempt to achieve the most economically efficient solutions possible, we as Ford are committed to do our fair share
- Our sector is an interdependent system in which the vehicle, the fuel and the driver are all critical factors in relation to GHG emissions. For example, automakers can bring to market flexible-fuel vehicles, but successfully reducing GHG emissions depends on fuel companies providing sustainable biofuels, as well as consumer demand for the vehicles and fuels
- Technologies, markets, consumer demand and public policies are constantly evolving. The business strategies that Ford implements, and the public policies that we encourage, must have the flexibility to succeed in a range of potential scenarios
- Early affordable steps to reduce GHG emissions from our products and processes may delay the need for drastic and costly reductions later. Lack of agreement on long-term solutions cannot be used as an excuse to avoid near-term actions

Climate Change Risks and Opportunities

Evolving regulation, fuel price volatility and consumer demand are some of the factors that influence lower-carbon product development and other responses to climate change. While these factors can represent substantial risks, there are also opportunities for Ford and other automakers to innovate and decarbonize across the value chain.

Regulatory Environment

- The climate change and fuel economy policy landscape is becoming more complex and interconnected with other market forces
- All of our major markets are increasingly shaped by government actions to regulate fuel economy and carbon dioxide (CO₂) emissions, introduce low-carbon fuels and provide incentives to shift consumer and business behavior
- Many governments are also actively involved in promoting the research, development and purchase of new vehicle and battery technologies

Consumer Demand for Affordable Fuel Economy

- Sales of fuel-efficient vehicles and alternative fuel and powertrain vehicles have been inconsistent historically and are in several regions strongly linked to fuel price volatility. Reduced consumer demand triggered by lower crude oil and gasoline prices creates future compliance risks for automotive companies
- Public concern about climate change is another factor in consumer demand for greener vehicles although this driver remains relatively minor in most of our major markets
- Ford is ready to meet demand for greener products and services but to make the transition to a low-carbon economy, efforts among stakeholders must be coordinated and aligned to achieve broad consumer acceptance – by delivering better fuel economy with technologies affordable for a broader spectrum of consumers

Energy Security

- In many markets, energy security concerns drive fuel economy regulation and alternative fuel development, as governments and consumers seek to rely as much as possible on domestic sources of transportation fuel and reduce imports of petroleum products
- In the United States, however, recent increases in domestic production of oil, gas and biofuels have led to a reduced dependence on imported oil and energy security is therefore becoming less of a driver for fuel-efficient and cleaner vehicles in this market. Nevertheless, we expect the United States to remain dependent on imported oil for some time to come

Investor Concerns About Climate Change

- Investors are showing greater concern about climate change as a material risk for many companies
- In some countries, company disclosure of climate risks is mandatory. Investors also look to voluntary global reporting platforms like the CDP to benchmark companies' performance in greenhouse gas emissions reduction and water stewardship
- Shaping our business strategy with climate change in mind and providing information to investors through our annual reporting and through voluntary disclosure are important in maintaining access to capital

Physical Risks

- We assess climate-related risks to our facilities, such as shifting patterns of extreme weather, at least annually. As a result, we believe we have a good understanding of the physical risks and how those risks are changing over time
- For instance, extreme weather has the potential to disrupt the production of natural gas, a fuel we need to manufacture our vehicles. To minimize the risk to our operations, we have established firm delivery contracts with natural gas suppliers and installed propane tank farms at key manufacturing facilities as a source of backup fuel
- We continue to implement our energy and water strategies to further minimize risk

Supply Chain Risks

- Like Ford, our suppliers are subject to market, regulatory and physical risks related to climate change
- These risks could affect their competitiveness or ability to operate, creating the potential for disruptions to the flow of supplies to Ford

Ford's Climate Change Strategy

Our climate change strategy is a comprehensive approach designed to help us respond effectively to these risks and opportunities. By doing our part toward climate stabilization, we are future-proofing our company to be more resilient and more adaptable.

Water Strategy

We continue to implement our water strategy, which now includes a commitment to address water impacts beyond our “fence line” through working with suppliers and local communities.

Developing Our Goals

A centerpiece of this strategy is meeting increasingly stringent water-reduction goals for our own operations.

In 2014, we started the process of updating our global manufacturing water goals – including developing a new water-use-per-vehicle reduction target. This new target will build on our success in meeting – two years early – our previous water-use-per-vehicle goal of a 30 percent reduction from 2009 to 2015.

We reduced our water use by 5.6 percent per vehicle from 2013 to 2015.

[› Water Use](#)

Our Blue Plan of Action

Our water strategy aligns with the core elements of the CEO Water Mandate, a private-public initiative launched by the UN Secretary-General in 2007. Companies that support the CEO Water Mandate commit to implementing the framework's six core elements for water management and pledge to publicly report their progress annually. Ford endorsed the Water Mandate in 2014.

The graphic below summarizes how our water strategy – or Blue Plan of Action – incorporates the six elements of the CEO Water Mandate to help guide us toward a position of industry leadership.

Ford's Blue Plan of Action



Direct Operations

We are reducing water use and water impacts from our operations by implementing a wide range of water-saving technologies.

[› Water Use](#)

Supply Chain

We are working with our suppliers to assess their water footprints. Our goal is to share our knowledge about the water-savings initiatives we have implemented across our plants with our suppliers to encourage them to implement some of these initiatives within their own facilities.

[› Environmental Sustainability](#)

Collective Action

The water issue is a challenge too large for one company to tackle on its own. We are collaborating with others, both public and private, to develop and implement best practices that address key water challenges (including access to water, sanitation and hygiene) and to raise awareness of these issues.

Public Policy

We are collaborating with governments where we operate to promote sound water management practices for sustainability.

Community Engagement

We're investing in water stewardship projects around the world, especially in areas where access to potable water is limited. As we expand into new markets in more water-stressed regions, we are increasing our engagement with local communities on water issues.

Transparency

Transparency underpins all of the other five areas. We develop communications and reporting channels that promote accountability, including publishing and sharing our company water strategy (including targets and results) in relevant corporate reports.

Our Value Chain Impacts

Preserving and enhancing financial, environmental and social value starts with understanding where our greenhouse gas footprint, water use and other impacts arise, in order to set meaningful goals and drive progress.

Our Value Chain

Ford's value chain extends far beyond our “fence line” and we need to work with all stakeholders to measure impacts and maximize value. The following description highlights impacts, risks and value creation opportunities at each main stage.

Product Planning and Design

Product responsibility starts at the planning and design stage, where Ford's innovation and R&D play a key role in the development of sustainable products that enhance benefits to society and reduce negative effects.

[› Our approach and performance in Products and Customers](#)

Raw Material Extraction

Extraction activity provides employment and business opportunities in different regions of the world, but is associated with issues relating to conflict minerals, human trafficking and rare earth elements. As well as complying with all relevant legislation, Ford engages with its supplier base on the social, ethical and environmental standards our company expects and requires.

Logistics/Transportation

Shipping parts and finished vehicles provides business and jobs in the transportation and packaging industries. With our supplier base, we work for continuous improvement in emissions, waste, traffic and road safety.

Supplier Parts Manufacturing

Providing business to suppliers generates jobs, income and investment but changes in our supplier base and production can affect local communities adversely. We work with our supplier base to increase the environmental sustainability of their operations.

[› Our approach and performance in Supply Chain](#)

Ford Manufacturing

At the same time as generating employment and investment in our communities, we continually look to improve the environmental performance of our facilities through closed-loop aluminum processes and other innovations.

[› Our approach and performance in Operations](#)

[› Our approach and performance in Supply Chain](#)

Sales and Service

Employment and investment are generated through our dealer network and their vehicle service centers. We work with dealerships to make processes environmentally sustainable, including encouraging the recycling of used parts.

[› Our approach and performance in Supply Chain](#)

Use

Most impacts and value arise when our products are being used. The main way we add value is by providing our customers with high-quality, fuel-efficient vehicles, and mobility services. Key negative impacts include tailpipe emissions and road traffic accidents.

[› Our approach and performance in Products and Customers](#)

End of Vehicle Life

Ninety-five percent of the materials in our vehicles (by weight) can be recovered, recycled or reused, so it's important to Ford that we maximize environmental benefits and resource efficiency by supporting the vehicle dismantling, recycling and disposal industries. This helps to alleviate the negative impacts that arise at end of life in the form of waste production and waste to landfill.

[› Our approach and performance in Products and Customers](#)

We have a good understanding of GHG emissions associated with our facilities, including direct emissions from our electricity production and indirect emissions from purchased electricity, steam and heat.

We also have estimates of the emissions associated with the "use" or driving phase of our products, which is by far the largest contributor to our overall GHG footprint.

Carbon dioxide (CO₂) makes up the vast majority of GHG emissions produced by our operations and products across our total value chain. However, we are also working to understand and reduce non-CO₂ greenhouse gas emissions such as HFCs, CH₄, and N₂O associated with our products.

Our Current Assessment

Below is our calculation of GHG emissions from our facilities and from the lifetime use of all Ford vehicles sold in 2015.

2015 GHG Emissions from Ford Operations and Use of Sold Products

	Million metric tons
Ford Facilities	4.7
Use of Sold Products	115.6 ¹

Data notes and analysis:

1. Lifetime emissions (150,000 km) of all passenger cars and other light-duty vehicles sold during the reporting year in the United States, Canada, Mexico, EU, China, Australia, Brazil and India. Based on the Scope 3 definition of "use of sold products" in the World Resource Institute's and World Business Council for Sustainable Development's GHG Protocol.

Our GHG Footprint in Context

Cars and trucks are a significant contributor to climate change. The transportation sector overall – including emissions from cars and light-duty trucks, larger trucks and buses, airplanes, ships, rail transport and other modes of transportation – contributed approximately 23 percent of GHG emissions globally in 2013 (IEA, 2015, CO₂ Emissions from Fuel Combustion Highlights 2015).

Passenger cars and light-duty trucks, Ford's primary products, made up about half of the 2011 total transportation GHG emissions on a well-to-wheels basis (IEA, Energy Technology Perspectives 2014, ETP2014 transport summary online data).

Challenges in Assessment

Some GHG emissions we can control directly – for example, most of those from our own operations. However, our ability to influence and even measure decreases the further up and down our value chain we look. Even the GHG emissions of our own operations and products are not completely within our control.

For example, we cannot specify the fuels burned to generate the electricity we purchase. Nor can we determine which vehicles people buy or how they are driven, which greatly impacts actual fuel economy and the use phase GHG emissions that also factor into the GHG footprints of our customers around the world.

We use two primary tools to understand our GHG footprint across our value chain: life cycle assessment and the "scope-based" GHG Protocol developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD).

Our Greenhouse Gas Footprint

We are working to understand the greenhouse gas (GHG) footprint of our operations and products over their total life cycle – from raw materials extraction to manufacturing to product use and disposal at end of life.

Understanding Our GHG Footprint

The knowledge we are continuing to build about our GHG footprint helps us identify and prioritize the key areas on which to focus our emission reduction efforts.

Water Use in the Vehicle Life Cycle

As well as mapping our GHG footprint, we're working to understand water-related impacts across the value chain in order to implement our Blueprint for Sustainability. This holistic approach is essential for addressing key environmental challenges – especially those related to climate change – which are often linked and cannot be tackled in isolation.

To better assess our water-related impacts, we have estimated the freshwater withdrawal (i.e., total water withdrawn, which may or may not be returned to the source) and consumption (i.e., water withdrawn and not returned to the source) for the life cycle of a model year 2012 Ford Focus:

- Gasoline internal combustion engine vehicle (ICEV)
- Battery electric vehicle (BEV)

Scope of Our Assessment

- The analysis includes water used in material production, parts production, vehicle assembly, vehicle use (fuel production and distribution) and vehicle disposal at end of life
- Both direct and indirect water usages were accounted for throughout the life cycle based on a lifetime driving distance of 160,000 miles
- For the vehicle use-phase water analysis, the typical U.S. gasoline, which includes 10 percent ethanol (E10), and the U.S. average electric grid mix was assumed for the Focus ICEV and Focus BEV, respectively

Summary of Assessment Results

- Focus ICEV using E10 gasoline – estimated U.S. average life cycle water withdrawal of 530 cubic meters (m^3) and water consumption of 130 m^3
- Focus BEV – estimated life cycle water withdrawal of 3,770 m^3 and water consumption of 170 m^3 (comparable to that for the ICEV)
- The relatively large water withdrawal associated with the BEV's use phase reflects the substantial amount of water needed for cooling in coal, nuclear and natural gas power plants. In comparison, the water needed to produce petroleum fuels is much less
- During the use phase the car itself does not consume a lot of water. Under a life cycle analysis, however, one could take the view that the use phase is the most water-intensive stage due to the water used to produce the gasoline or electricity that powers the vehicle. This highlights the importance of reducing the water consumption associated with fuel production, as well as increasing vehicle energy efficiency, to enhance sustainability
- In the supply chain, the production and processing of materials (e.g., steel and aluminum) require the most water. Identifying which portions of the supply chain are most water intensive allows us to better assess the business risk associated with using suppliers in potentially water-stressed areas

Focus 2012 ICEV Life Cycle Water Withdrawal

	Withdrawal (m^3)
Materials	123
Manufacturing	77
Assembly	48
Fuel Production	260
End of Life	23

Data notes and analysis:

H.C. Kim, T.J. Wallington, S.A. Mueller, B. Bras, T. Guldberg, and F. Tejada (2015). Life Cycle Water Use of Ford Focus Gasoline and Ford Focus Electric Vehicles, *Journal of Industrial ecology*. DOI: 10.1111/jiec.12329.

Focus 2012 ICEV Life Cycle Water Consumption

	Consumption (m^3)
Materials	16
Manufacturing	4
Assembly	3
Fuel Production	107
End of Life	1

Data notes and analysis:

H.C. Kim, T.J. Wallington, S.A. Mueller, B. Bras, T. Guldberg, and F. Tejada (2015). Life Cycle Water Use of Ford Focus Gasoline and Ford Focus Electric Vehicles, *Journal of Industrial ecology*. DOI: 10.1111/jiec.12329

Prioritizing Key Issues

Our materiality analysis helps define the spectrum of sustainability topics that shape our approach and reflect the concerns of stakeholders. These are captured in our materiality matrix, providing a snapshot of key sustainability challenges and opportunities.

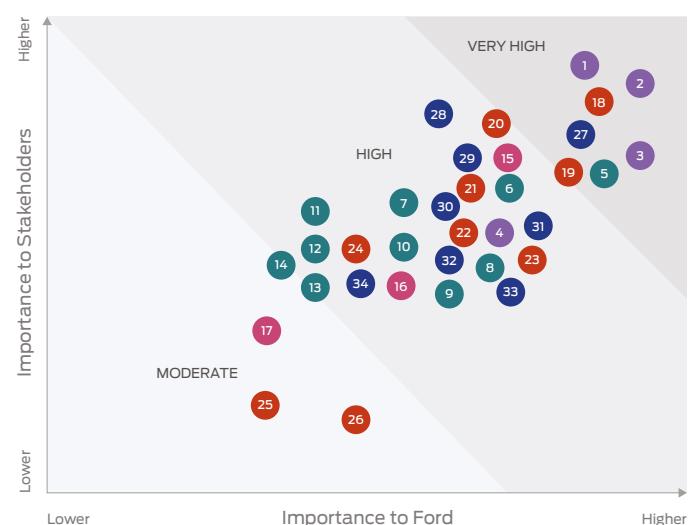
We carry out this analysis to add depth to our understanding, communicate transparently and inform our reporting. However, it should be noted that a two-dimensional matrix cannot capture all nuances or show the complex linkages between sustainability issues.

Although some element of subjectivity is inevitable, we work hard to produce comprehensive, precise materiality results and provide an accessible overview of key issues.

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

Materiality Results

Materiality Matrix



Financial

- 1 Financial Health
- 2 Product Innovation
- 3 Mobility Innovation
- 4 Brand Perception

Environmental

- 5 Operations and Logistics Energy Use and GHG Emissions
- 6 Product Carbon Footprint/Fuel Economy
- 7 Climate Change Resilience Strategy
- 8 Consumer Demand for Fuel Efficiency
- 9 Operations Water Use
- 10 Community Impacts of Water Use
- 11 Land Use and Biodiversity
- 12 Materials and Waste Management
- 13 Environmental Management and Process Innovation
- 14 Air Quality

Human

- 15 Human Capital Management
- 16 Diversity and Inclusion
- 17 Employee Wellness, Health and Safety

Social

- 18 Supply Chain Management, Assessment, Capacity Building and Performance
- 19 Vehicle and Traffic Safety
- 20 Product Quality
- 21 Community Impacts of Operations
- 22 Community Engagement
- 23 Customer Satisfaction
- 24 Customer Privacy and Data Protection
- 25 Dealer Relationships
- 26 Big Data

Governance

- 27 Ethical Business Practices
- 28 Disclosure and Transparency
- 29 Sustainability Strategy and Vision
- 30 Stakeholder Engagement
- 31 Regulatory Compliance
- 32 Voluntary Standards and Certifications
- 33 Fuel Economy and GHG Regulations
- 34 Other Regulations/Policy

Our most recent materiality analysis was conducted in 2014 and early 2015 and is reflected in our [current matrix](#).

The Most Important Issues

Our 2014/15 analysis and resulting matrix indicate that a number of issues continue to be of high importance to Ford and stakeholders. These include:

- Product carbon footprint and fuel economy
- Environmental management/process innovation
- Supply chain management, assessment, capacity building
- Community impacts of operations
- Ethical business practices
- Fuel economy and greenhouse gas (GHG) regulation
- Public policy (non-fuel economy or GHG regulation related)

Summary of Major Changes

As a result of our most recent analysis in 2014/15, a number of new issues emerged, some dropped out and others were reorganized.

Although elements of innovation were already present on the matrix (e.g., low-carbon strategy or electrification), **product innovation** and **mobility innovation** moved to the top-right of the matrix, representing the high importance and increasing focus on these areas within Ford and among stakeholders.

Big data emerged as a new issue of importance, reflecting the central role of analytics and technology in supporting customers with mobility products and services, and in extracting value from data. A greater emphasis is being placed internally and externally on data management, including security and privacy, to gain insights into driver behavior and continuously evolve products.

Human capital management increased in importance relative to the previous analysis, becoming a highest importance, top-right issue. Changes in the global workforce and new approaches to human capital management were two of the factors that influenced the placement of this topic on the matrix.

Product quality increased in significance on the matrix, becoming a highest importance, top-right topic. External and internal stakeholders are concerned with product quality to ensure safety and also satisfy changing consumer demands. Media attention to recalls further raised the importance of the issue.

Water issues, including operational water use and local community impacts of water, dropped in importance from the previous analysis, likely reflecting Ford's progress in managing these issues and Ford's relatively small impacts on water resources compared with companies in other industries.

Definitions and Process

Ford was an early adopter of materiality analysis in the context of sustainability and has used the process for more than a decade.

Background

We use materiality to set reporting priorities, identify emerging sustainability issues, shape our sustainability strategy, set goals and allocate resources.

We published our first materiality analysis in our 2004/05 Sustainability Report and have updated it every other year since. The next analysis will be reflected in our 2016/17 Sustainability Report.

In the meantime, we continue to consider material issues and stakeholder inputs informally on an ongoing basis.

Definitions

For the purposes of this report, we consider material information to be that which is of greatest interest to, and which has the potential to affect the perception of, those stakeholders who wish to make informed decisions and judgments about the company's commitment to environmental, social and economic progress. This definition predates, but is consistent with, the GRI definition.

The GRI defines material aspects as "those that reflect the organization's significant economic, environmental and social impacts; or that substantively influence the assessments and decisions of stakeholders."

Overview of the Process

For our most recent materiality analysis – reflected in the 2014/15 and 2015/16 Sustainability Reports – we substantially revised our process to align with Global Reporting Initiative (GRI) G4 guidance and provide more insight into key issues based on megatrends.

The process followed three key steps – identification, prioritization (including analysis of megatrends), validation and review – resulting in our current [materiality matrix](#). A full description of the methodology we used is available for download below.

[› Materiality Methodology](#)

Stakeholder Engagement

Every day at every level, we engage with a large number of stakeholders, both formally and informally. These interactions are crucial to Ford – enabling us to respond effectively on sustainability challenges and opportunities affecting us all.

Specific reviewers of the report include our Sustainability & Innovation Board Committee (who review our Executive Summary Report as part of their charter), the Global Executive Leadership team, global subject matter experts, SE&SE VP, CERES, employees, Sustainability Think Tanks and non-automotive corporations.

As part of the report preparation process, we specifically engage with a [Ceres](#) Stakeholder Committee to gain a multi-stakeholder perspective on sustainability topics. For further details, see [About This Report](#).

Key Stakeholders

Below, we identify key groups and summarize the channels we use to maintain dialogue. For each group, the engagement varies on a case-by-case basis, and includes formal/informal, regular/ad hoc, face-to-face/other channels.

Communities

67

assembly, stamping and powertrain plants worldwide

- Community Relations Committees
- Interactions with governments
- Membership of associations
- Dialogue with nongovernmental organizations
- Ford Fund
- Driving Skills for Life program

Investors

Approx.

37,850

stockholders

- Investment community forums
- Quarterly earnings communications
- Annual shareholders' meeting
- Annual report
- Proxy statement
- SEC filings (e.g., 10-K, 10-Q, 8-K)
- Ratings and rankings

Customers

6.6 million

vehicles sold in 2015

- Consumer Insight process
- Market research
- Customer care programs
- Dealer interactions
- Ford.com website
- Ford Owners magazine

Suppliers

Total global spend of

\$110 billion+

- Top Supplier meetings
- Ford Partnership for a Cleaner Environment (PACE)
- Aligned Business Framework supplier dialogue sessions
- Supplier quality roundtables
- Supplier Diversity Development Networking
- External supplier organizations
- Coalitions including EICC

Dealers

Approx.

11,970

dealerships worldwide

- Intranet communications
- Brand sales and service representatives
- Brand Dealer Councils
- Dealer roundtables
- President's Circle
- Salute to Dealers
- Advertising and public service announcements
- Dealer Attitude Survey

Employees

Approx.

199,000

employees across the globe

- Intranet site
- Sustainability Report and executive summary
- Social media applications
- Union representatives
- Joint labor-management committees
- Webcasts, videos, blogs and executive Q&A sessions with senior management
- "Town Hall" meetings
- Employee surveys
- Employee Resource Group initiatives
- Test drive and product reveal events

SUSTAINABILITY AT FORD	GLOBAL MOBILITY	PRODUCTS AND CUSTOMERS	OPERATIONS	SUPPLY CHAIN	COMMUNITIES	OUR PEOPLE	GOVERNANCE
------------------------	-----------------	------------------------	------------	--------------	-------------	------------	------------

Performance and Reporting

Below is a summary of key performance data. For more detailed information and trends, please use the Performance Data quick links menu or navigate to the Data pages of each main Report section. For information on data boundaries and assurance, please see [About This Report](#).

Financial Health			
	2013	2014	2015
Pre-tax profits (excluding special items), \$ billion ¹	8.6	7.3	10.8
Products and Customers			
	2013	2014	2015
Ford U.S. fleet fuel economy, combined car and truck, miles per gallon (higher mpg reflects improvement)	29.5	30.1	30
Ford U.S. fleet CO ₂ emissions, combined car and truck, grams per mile (lower grams per mile reflects improvement)	302	297	296
Ford Europe CO ₂ tailpipe emissions per passenger vehicle, grams per kilometer (phase-in of percent best-CO ₂ -performing vehicles; based on production data for European markets)	111.5 ²	113.9 ²	NA³
Global Quality Research System "things gone wrong" (3 months in service), total "things gone wrong" per 1,000 vehicles ⁴			
North America	1,650	1,392	1,265
South America	1,724	1,472	1,207
Europe	1,302	1,302	1,232
Asia Pacific	941	917	846
Middle East & Africa	1,311	1,046	775
Global Quality Research System customer satisfaction (3 months in service), percent satisfied ⁴			
North America	78	79	81
South America	65	68	70
Europe	71	73	75
Asia Pacific	68	69	71
Middle East & Africa	63	62	67
U.S. safety recalls, number per calendar year (including legacy vehicles on the road for 10+ years)	16	40	40
U.S. units recalled, number of units (including legacy vehicles on the road for 10+ years)	1,188,000	4,741,230 ⁵	4,994,290
	2014	2015	2016
Percent of Ford nameplates achieving five-star U.S. New Car Assessment Program (NCAP) Overall Vehicle Score (OVS) (percent of Ford Motor Company vehicles tested by model year)	41	65	62⁶
Operations			
	2013	2014	2015
Worldwide facility energy consumption, billion kilowatt hours	15.2	14.94 ⁷	14.6
Worldwide facility energy consumption per vehicle, kilowatt hours per vehicle	2,466	2,470	2,244
Worldwide facility CO ₂ emissions, metric tons	4.8	4.6	4.7
Worldwide facility CO ₂ emissions per vehicle, metric tons	0.78	0.76	0.73
Energy Efficiency Index, percent (higher percentage reflects improvement)	17.0	21.0	NA⁸
Global water use, million cubic meters	24.9	24.1	24.9
Global water use per vehicle produced, cubic meters	4.04	3.99	3.81
Supply Chain			
	2013	2014	2015
Total supplier sites trained/retrained in sustainability management (cumulative, since 2005)	2,670	2,948	3,156
Assessments to date	915	990	1,071
Training cascade to workforce, individuals trained	488,472	559,755	630,218

SUSTAINABILITY AT FORD	GLOBAL MOBILITY	PRODUCTS AND CUSTOMERS	OPERATIONS	SUPPLY CHAIN	COMMUNITIES	OUR PEOPLE	GOVERNANCE
------------------------	-----------------	------------------------	------------	--------------	-------------	------------	------------

Communities	2013	2014	2015
Ford Motor Company Fund contributions, \$ million	26.3	30.2	37.2
Corporate contributions, \$ million	11.4	15.4	18.4
Volunteer Corps, thousand volunteer hours	150	160	186
Our People	2013	2014	2015
Lost-time case rate by region (per 100 employees; cases with one or more days away from work per 200,000 hours)			
North America	0.75		0.75
South America	0.23		0.54
Middle East & Africa	0.04		0.1
Asia Pacific	0.3	0.03	0.03
Europe	0.33		0.36
Employee satisfaction, Pulse survey, overall, percent satisfied	75	76	76
Overall dealer attitude, Ford, relative ranking on a scale of 1–100 percent (winter/summer score)	84/85	85/85	85/85
Overall dealer attitude, Lincoln, relative ranking on a scale of 1–100 percent (winter/summer score)	76/78	77/77	77/78

1. Excludes special items; reconciliation to GAAP for full-year 2014 and 2015 provided in “Results of Operations” ([p34, 2015 Annual Report](#)) and “Liquidity and Capital Resources” ([p65, 2015 Annual Report](#)).

2. Only 80 percent of the best-CO₂-performing fleet vehicles are accounted for in the “phase in” data as part of the EC’s phase in plan.

3. NA = Not available. EU COM to publish the final number by the end of 2016.

4. “Things gone wrong” and customer satisfaction data are based on model years.

5. Ford Action 14B04 (NHTSA Action Number of 14V343000) was superseded by 16S03 (NHTSA Action Number of 16V036000).

6. This data includes Ford and Lincoln.

7. 2014 data shows two decimal places to avoid a rounding discrepancy in the total.

8. NA = Not available.

Our Goals and Progress

This table summarizes Ford’s goals, commitments, targets and progress in our material issue areas¹ and other important performance areas. Please see the data sections for our complete data reporting and data notes.

GLOBAL MOBILITY	2015 Progress Examples	Status
Goal		
Deliver our Ford Smart Mobility plan. Drive innovation across every part of the business.	<p>Formed a new subsidiary of Ford Motor Company to develop and invest in mobility services.</p> <p>Moved from experimentation to implementation – through partnerships with world-leading tech companies, and through our global mobility projects and pilots in cities across the world.</p> <p>Encouraged creative solutions and innovative tech from the developer community through series two of our global Innovate Mobility Challenge.</p> <p>> Ford Smart Mobility</p> <p>In our regions:</p> <ul style="list-style-type: none"> > North America > South America > Europe > Middle East & Africa > Asia Pacific 	In process

1. For financial health related goals, please see [10-K](#) for information on our 2016 full year outlook.

SUSTAINABILITY AT FORD	GLOBAL MOBILITY	PRODUCTS AND CUSTOMERS	OPERATIONS	SUPPLY CHAIN	COMMUNITIES	OUR PEOPLE	GOVERNANCE
------------------------	-----------------	------------------------	------------	--------------	-------------	------------	------------

PRODUCTS AND CUSTOMERS										
Goal	2015 Progress Examples			Status						
Improve fuel economy across our global product lineup, consistent with regulatory requirements and doing our part for climate stabilization. We translate the stabilization goal into specific CO ₂ reductions for each of our regional vehicle fleets, taking into account sales growth.	Our combined car and truck fuel economy declined slightly in 2015, primarily due to customers purchasing larger cars and more trucks. Our combined fleet CO ₂ emissions improved by 10 percent compared to 2009.				On track					
Offer competitive or “among the leaders” fuel economy for each new or significantly refreshed vehicle.	<p>Our EcoBoost® engine is now available on 32 different vehicles, including all our North American nameplates, and in all our operating regions.</p> <p>› Climate Change Strategy</p> <p>› Improving Fuel Economy</p>									
Pursue our electrification strategy.	<p>Announced an investment of \$4.5 billion to extend and advance our electrified vehicle strategy through 2020.</p> <p>› Climate Change Strategy</p> <p>› Alternative Fuels and Powertrains</p>				On track					
Continue or maintain our leadership in lightweighting.	<p>The all-new Ford F-Series Super Duty is c.350 pounds lighter than the outgoing model and the Ford F-150 is c.700 pounds lighter than the previous generation.</p> <p>› Climate Change Strategy</p> <p>› Improving Fuel Economy</p>				On track					
Offer alternative fuel vehicles.	<p>We offer engine packages on a wide range of commercial vehicles specially prepared for conversion to compressed natural gas and liquefied natural gas. We continue to support the development of next-generation biofuels and to partner on hydrogen fuel cell research.</p> <p>› Climate Change Strategy</p> <p>› Improving Fuel Economy</p> <p>› Alternative Fuels and Powertrains</p>				On track					
Continue to develop and implement our sustainable materials strategy – focused on materials that have been obtained by socially sustainable means, that have lower environmental impacts and that provide equivalent or superior performance to existing materials.	<p>We are increasingly using materials that are more sustainable from a total life cycle perspective, including recycled, renewable and recyclable materials, and working to decrease or eliminate undesirable materials. Our Restricted Substance Management Standard is the first of its kind in the industry. We have eliminated or reduced substances of concern well ahead of regulatory requirements.</p> <p>› Using Sustainable Materials</p>				On track					
Design and manufacture vehicles with safety excellence focused on real world safety and offer innovative safety and driver assist technologies.	<p>Continued to implement:</p> <ul style="list-style-type: none"> • Our Quality Operating System to deliver high-quality, safe and secure vehicles • Our stringent internal engineering design guidelines, which exceed regulatory requirements. <p>The Ford F-150 is an Insurance Institute for Highway Safety's Top Safety Pick for SuperCrew and SuperCab configurations.</p> <p>› Vehicle Safety</p>				On track					
Meet or exceed all regulatory requirements for safety.										
Provide information and educational programs to assist in promoting safe driving practices.	<p>Continued to invest in Ford Driving Skills for Life (DSFL), our free driver education program. To date, Ford DSFL has given more than 165,000 people behind-the-wheel training.</p> <p>› Encouraging Safer Driving</p>				On track					
Play a leadership role in vehicle safety and driver assist research and innovation.	<p>Continued to collaborate with:</p> <ul style="list-style-type: none"> • Other automotive companies on precompetitive safety projects • University partners on a wide range of research projects, including research into advanced safety technologies. <p>› Safety Technologies</p>				On track					
OPERATIONS										
Goal	2015 Progress Examples			Status						
Reduce global facility CO ₂ emissions per vehicle produced by 30 percent – by 2025 compared to 2010 baseline.	27 percent reduction, 2010 to 2015.				On track					
	<p>› Operational Energy and Greenhouse Gas Emissions</p> <p>› Ford Response to CDP Climate Change Program</p>									
Reduce global facility energy use per vehicle produced by 25 percent – by 2016 compared to 2011 baseline.	Goal achieved in 2015 – equal to an annual GHG saving of 1.3 million metric tons.				Achieved					
	<p>› Operational Energy and Greenhouse Gas Emissions</p>									

SUSTAINABILITY AT FORD	GLOBAL MOBILITY	PRODUCTS AND CUSTOMERS	OPERATIONS	SUPPLY CHAIN	COMMUNITIES	OUR PEOPLE	GOVERNANCE
------------------------	-----------------	------------------------	------------	--------------	-------------	------------	------------

OPERATIONS										
Goal	2015 Progress Examples			Status						
Reduce global water use per vehicle produced by 30 percent – by 2015 compared to 2009 baseline.	Achieved 30 percent reduction by 2013. Set new reduction goal of a further 2 percent – achieved in 2015 with a reduction of 5 percent. In process of setting new long-term goal. › Water Use				Achieved					
Reduce global waste sent to landfill by 40 percent per vehicle produced – by 2016 compared to 2011 baseline.	Achieved 54 percent reduction by 2015. › Waste Reduction				Achieved					
SUPPLY CHAIN										
Goal	2015 Progress Examples			Status						
We aim to ensure that everything we make – or that others make for us – is consistent with local law and our own commitment to protecting human rights, as embodied in our Policy Letter 24, our Code of Human Rights, Basic Working Conditions and Corporate Responsibility.	At the end of 2015, 100 percent of our production Aligned Business Framework suppliers had codes of conduct aligned with our Policy Letter 24, and 73 percent had robust systems governing their own operations and those of their supply chain. › Our Supply Chain Strategy				On track					
Help suppliers build their capacity to manage supply chain sustainability issues.	In 2015, 208 direct and indirect suppliers in six high-priority countries were trained on human rights issues. › Supplier Training and Education				On track					
Assess Tier 1 suppliers for compliance with local laws and Ford's supply chain sustainability expectations.	81 initial social responsibility audits and 120 follow-up audits were conducted in 2015. Conducted our first semi-announced audit of a supplier facility in 2015. › Auditing Our Suppliers				On track					
Engage with our supply chain to understand its carbon and water footprints.	Surveyed approximately 250 suppliers through the CDP Supply Chain questionnaires. The number of Ford suppliers reporting GHG reduction targets continues to increase. › Environmental Sustainability				In process					
Work with selected suppliers to reduce our collective environmental footprint by encouraging target setting and sharing best practices for energy and water use reductions.	Completed a Partnership for a Cleaner Environment (PACE) pilot program with a select group of 10 suppliers. Since then, we have extended PACE to include 25 strategic suppliers. › Environmental Sustainability				In process					
Improve the transparency of mineral sourcing within our supply chain while improving the capacity of conflict-free smelters.	100 percent of our in-scope suppliers submitted an annual conflict minerals reporting template. › Conflict Minerals				On track					
Continue effort to source purchases from veterans, minority- and women-owned businesses annually.	Ford purchased goods and services worth \$8.2 billion from minority-owned suppliers; \$2.3 billion from women-owned businesses; and \$1.1 billion from veteran-owned companies. › Supplier Diversity				Achieved					
OUR PEOPLE										
Goal	2015 Progress Examples			Status						
Fatalities target is always zero.	Fifth consecutive year of zero fatalities among Ford employees. However, there were four fatalities among contractors, who were involved in construction projects at our facilities. › Health and Safety				Not on track					
Serious injuries target is zero; overall goal is to attain industry competitive lost-time and drive continuous improvement; specific targets are set by business units yearly for five years into the future.	The lost-time case rate compares very favorably with the industry average and stands at 0.43 cases with one or more days away from work, per 200,000 hours. › Health and Safety				In process					
Maintain or improve employee personal health status through participation in health risk appraisal and health promotion programs.	Had active personal health promotion programs in place in most regions. Our efforts are tailored to meet local health priorities and to ensure that our people receive quality health care when they need it. › Health and Well-Being				On track					

UNGC Index

In 2008 Ford joined the United Nations Global Compact, which endorses a framework of principles in the areas of human rights, labor and the environment. We continue to be committed to the principles and are actively implementing them as detailed in this report.

Mark Fields,
President and Chief Executive Officer

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

Human Rights

UNGC Principle	Report Links
1. Businesses should support and respect the protection of internationally proclaimed human rights.	<ul style="list-style-type: none"> › Policy Letters and Directives › Ethics and Compliance › Human Rights and Working Conditions › Supplier Training and Education › Auditing Our Suppliers › Industry Collaboration › Going Further Toward Supply Chain Leadership › Community Engagement and Investment
2. Businesses should make sure that they are not complicit in human rights abuses.	<ul style="list-style-type: none"> › Policy Letters and Directives › Supplier Training and Education › Auditing Our Suppliers › Industry Collaboration › Going Further Toward Supply Chain Leadership › Community Engagement and Investment › Conflict Minerals

Labor Standards

UNGC Principle	Report Links
3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	<ul style="list-style-type: none"> › Policy Letters and Directives › Working at Ford
4. Businesses should uphold the elimination of all forms of forced and compulsory labor.	<ul style="list-style-type: none"> › Policy Letters and Directives › Our Supply Chain Strategy › Auditing Our Suppliers › Going Further Toward Supply Chain Leadership
5. Businesses should uphold the effective abolition of child labor.	<ul style="list-style-type: none"> › Policy Letters and Directives › Our Supply Chain Strategy › Going Further Toward Supply Chain Leadership › Auditing Our Suppliers
6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.	<ul style="list-style-type: none"> › Policy Letters and Directives › Diversity and Inclusion › Supplier Diversity

Environment

UNGC Principle	Report Links
7. Businesses should support a precautionary approach to environmental challenges.	<ul style="list-style-type: none"> › Climate Change Strategy › Climate Change Risks and Opportunities <p>The precautionary principle is the idea that if the consequences of an action are unknown, but are judged to have some potential for major or irreversible negative consequences, then it is better to avoid than take prudent action in the face of that uncertainty. We do not formally apply the precautionary principle to decision making across all of our activities. However, it has influenced our thinking. For example, in addressing climate change as a business issue, we have employed this principle. In addition, we assess and manage environmental, safety, supply chain, operational and other risks as described throughout this report.</p>

UNGC Principle

8. Businesses should undertake initiatives to promote greater environmental responsibility.

Report Links

- > [Policy Letters and Directives](#)
- > [Climate Change Strategy](#)
- > [Greening Our Operations](#)
- > [Operational Energy and Greenhouse Gas Emissions](#)
- > [Water Use](#)
- > [Waste Reduction](#)
- > [Greener Products](#)
- > [A Life Cycle Approach](#)
- > [Improving Fuel Economy](#)
- > [Alternative Fuels and Powertrains](#)
- > [Non-CO₂ Emissions](#)
- > [Using Sustainable Materials](#)

9. Businesses should encourage the development and diffusion of environmentally friendly technologies.

- > [Greening Our Operations](#)
- > [Operational Energy and Greenhouse Gas Emissions](#)
- > [Water Use](#)
- > [Waste Reduction](#)
- > [Greener Products](#)
- > [A Life Cycle Approach](#)
- > [Improving Fuel Economy](#)
- > [Alternative Fuels and Powertrains](#)
- > [Non-CO₂ Emissions](#)
- > [Using Sustainable Materials](#)

Anti-Corruption**UNGC Principle**

10. Businesses should work against corruption in all its forms, including extortion and bribery.

Report Links

- > [Policy Letters and Directives](#)
- > [Ethics and Compliance](#)

GRI Content Index

This report is “In Accordance” with the Global Reporting Initiative’s (GRI) G4 Guidelines – at a Comprehensive level. Please download our full GRI Content Index for a listing of the GRI indicators and our responses.

For a detailed explanation of the indicators, visit the [GRI website](#).

> [Download GRI Content Index](#)

U.N. Sustainable Development Goals

On September 25, 2015, countries adopted a set of 17 goals to end poverty, protect the planet, and ensure prosperity for all, as part of a new sustainable development agenda.

Ford is committed to doing its part to advance economic, social, environmental and governance challenges that exist in the world today.

We have pledged to highlight the contributions and alignment of our corporate sustainability vision with those SDG goals that most directly relate to our business, through our products and operations, and our efforts related to climate change, sustainable communities, clean water, and more.

This includes our ongoing focus on reducing carbon/GHG emissions; reducing water consumption; enhancing communities; and setting high standards for human rights performance.

We will continue to work with our stakeholders and coalitions in these efforts, communicating our journey to address the SDGs, and sharing our successes and challenges along the way.

Sustainable Development Goal



No poverty

End poverty in all its forms everywhere

- › [Employee Volunteering](#)
- › [ASIA PACIFIC: Global Month of Caring](#)
- › [EUROPE: Better World](#)
- › [MIDDLE EAST & AFRICA: Better World](#)



Zero hunger

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

- › [ASIA PACIFIC: Global Month of Caring](#)



Good health and well-being

Ensure healthy lives and promote well-being for all at all ages

- › [Ensuring Occupant Health](#)
- › [Vehicle Safety](#)
- › [Driver Assist and Collision Avoidance](#)
- › [Occupant Protection](#)
- › [Encouraging Safer Driving](#)
- › [Building a Better World: Our Community Projects](#)
- › [Driver Safety](#)
- › [Health and Safety](#)
- › [Reinforcing Our Safety Culture](#)
- › [Health and Well-Being](#)
- › [Policy Letters and Directives](#)
- › [ASIA PACIFIC: Global Month of Caring](#)
- › [ASIA PACIFIC: Better World](#)
- › [EUROPE: Better World](#)
- › [SOUTH AMERICA: Better World](#)
- › [MIDDLE EAST & AFRICA: Strong Business](#)
- › [MIDDLE EAST & AFRICA: Better World](#)
- › [NORTH AMERICA: Better World](#)



4 QUALITY EDUCATION

Quality education

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- › [Building a Better World: Our Community Projects](#)
- › [Education](#)
- › [Learning and Development](#)
- › [EUROPE: Better World](#)



5 GENDER EQUALITY

Gender equality

Achieve gender equality and empower all women and girls

- › [Human Rights and Working Conditions](#)
- › [Diversity and Inclusion](#)
- › [Policy Letters and Directives](#)



6 CLEAN WATER AND SANITATION

Clean water and sanitation

Ensure availability and sustainable management of water and sanitation for all

- › [Water Use](#)
- › [Environmental Sustainability](#)
- › [Community Engagement and Investment](#)

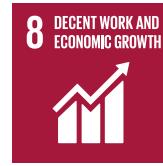


7 AFFORDABLE AND CLEAN ENERGY

Affordable and clean energy

Ensure access to affordable, reliable, sustainable and modern energy for all

- › [Operational Energy and Greenhouse Gas Emissions](#)



8 DECENT WORK AND ECONOMIC GROWTH

Decent work and economic growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- › [Human Rights and Working Conditions](#)
- › [Supplier Training and Education](#)
- › [Auditing Our Suppliers](#)
- › [Going Further Toward Supply Chain Leadership](#)
- › [Conflict Minerals](#)
- › [Community Engagement and Investment](#)
- › [Community Life](#)
- › [Policy Letters and Directives](#)



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Industry, innovation and infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- › [Ford Smart Mobility](#)
- › [Data Analytics](#)
- › [Improving Fuel Economy](#)
- › [Alternative Fuels and Powertrains](#)
- › [Safety Technologies](#)
- › [EUROPE: Strong Business](#)
- › [EUROPE: Great Products](#)
- › [ASIA PACIFIC: Investing in Accessible Innovation in China](#)
- › [ASIA PACIFIC: Innovation for Families and Kids: Extracting Value from Big Data](#)
- › [ASIA PACIFIC: Innovation in Our Cars and Technologies](#)
- › [SOUTH AMERICA: Strong Business](#)
- › [MIDDLE EAST & AFRICA: Strong Business](#)
- › [NORTH AMERICA: Strong Business](#)

10 REDUCED INEQUALITIES**Reduced inequalities**

Reduce inequality within and among countries

- > [Supplier Diversity](#)
- > [Community Life](#)

11 SUSTAINABLE CITIES AND COMMUNITIES**Sustainable cities and communities**

Make cities and human settlements inclusive, safe, resilient and sustainable

- > [Autonomous Vehicles](#)
- > [Conflict Minerals](#)
- > [EUROPE: Better World](#)
- > [EUROPE: Great Products](#)
- > [ASIA PACIFIC: Innovation in Our Cities](#)
- > [ASIA PACIFIC: "Innovate Mobility" Challenge for Developers](#)
- > [SOUTH AMERICA: Strong Business](#)
- > [MIDDLE EAST & AFRICA: Better World](#)
- > [NORTH AMERICA: Better World](#)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION**Responsible consumption and production**

Ensure sustainable consumption and production patterns

- > [Water Strategy](#)
- > [Water Use in the Vehicle Life Cycle](#)
- > [Using Sustainable Materials](#)
- > [Recycled Materials](#)
- > [Renewable Materials](#)
- > [Reducing End-of-Life Impacts](#)
- > [Waste Reduction](#)
- > [Environmental Sustainability](#)
- > [Optimizing Packaging](#)
- > [Policy Letters and Directives](#)
- > [SOUTH AMERICA: Better World](#)
- > [SOUTH AMERICA: Strong Business](#)
- > [NORTH AMERICA: Strong Business](#)

13 CLIMATE ACTION**Climate action**

Take urgent action to combat climate change and its impacts

- > [Climate Change Strategy](#)
- > [Greener Products](#)
- > [Improving Fuel Economy](#)
- > [Alternative Fuels and Powertrains](#)
- > [Greening Our Operations](#)
- > [Operational Energy and Greenhouse Gas Emissions](#)
- > [Environmental Sustainability](#)
- > [Reducing Freight Emissions](#)
- > [Policy Letters and Directives](#)
- > [SOUTH AMERICA: Great Products](#)
- > [EUROPE: Great Products](#)
- > [MIDDLE EAST & AFRICA: Great Products](#)
- > [ASIA PACIFIC: Innovation in Our Cars and Technologies](#)
- > [NORTH AMERICA: Great Products](#)

14 LIFE BELOW WATER**Life below water**

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

15 LIFE ON LAND**Life on land**

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss

- > [MIDDLE EAST & AFRICA: Better World](#)

16 PEACE AND JUSTICE STRONG INSTITUTIONS**Peace, justice and strong institutions**

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

- > [Conflict Minerals](#)

17 PARTNERSHIPS FOR THE GOALS**Partnerships for the goals**

Strengthen the means of implementation and revitalize the global partnership for sustainable development

- > [Ford Smart Mobility](#)
- > [Industry Collaboration](#)
- > [Going Further Toward Supply Chain Leadership](#)

About This Report

Welcome to Ford's 17th annual report on our sustainability progress. At Ford, we see reporting as an ongoing, evolving process, not an annual exercise. We expect our reporting to evolve further still and invite your feedback on this report, as well as our approach to reporting, at sustaina@ford.com.

This report covers the year 2015 and early 2016. The data is primarily for 2015 (for operations) and for the 2015 and 2016 model years (for vehicles). In addition to this full online report, we publish an eight-page [Executive Summary Report](#) for use by employees, customers and other stakeholders.

Data in this report is subject to various forms of assurance as discussed below and noted in the data tables. The summary report was reviewed by Ford's top senior executives and the Sustainability and Innovation Committee of the Board of Directors.

This report is in accordance with the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines at the Comprehensive level. See the GRI Content Index for a complete listing of indicators. More information on the GRI Guidelines can be found on the [GRI website](#).

This report also serves as Ford's annual United Nations Global Compact (UNGC) "Communication on Progress" (see the UNGC Index), as it includes discussion of Ford's implementation of the 10 principles of the UNGC and support for broad U.N. development goals (please also see the Sustainable Development Goals Index).

Consistent with GRI guidance on boundary setting, the data in this report covers all of Ford Motor Company's wholly and majority-owned operations globally, unless otherwise noted. Boundaries for each material issue are noted in our [Full Materiality Matrix](#). Data measurement techniques, the bases of calculations, changes in the basis for reporting or reclassifications of data previously reported are included where relevant as footnotes to tables and charts.

Stakeholder Review of Report

For this Sustainability Report and our previous nine reports, Ceres convened a Stakeholder Committee in March 2016 to advise us. Ceres leads a national coalition of investors, environmental organizations and other public interest groups working with companies to address sustainability challenges.

Ford agreed to work with a stakeholder team that was selected for us by Ceres. The Ceres Stakeholder Committee that was convened is an independent group of individuals drawn primarily from the Ceres coalition and representing a range of constituencies that have expertise in environmental, social and governance issues.

The Committee reviewed past reports and the outline for this 2015/16 Sustainability Report. The Committee met once by teleconference, and some members provided input to Ceres outside of the meeting.

The Committee provided a range of recommendations, highlighted below, along with examples of Ford's responses and actions in this report.¹

Recommendations of the Stakeholder Committee

Governance and Disclosure

Recommendation: Identify challenges in addition to achievements and ongoing priorities.

Ford response: Our Goals and Progress details our performance and progress against our key goals. As well as achievements, this also indicates those goals and targets we have yet to reach.

Public Policy Engagement

Recommendation: Reinforce support for the preservation of current Corporate Average Fuel Economy (CAFE) standards.

Ford response: We actively support the policy-making process and participate in coalitions and associations that advocate for legislation and regulation. Through a range of channels and forums, Ford continues to engage on significant issues including climate-related challenges. On this and other sustainability challenges, it was especially helpful to meet, and expand our relationships, with regulatory agencies across the globe during 2015.

In relation to the review of U.S. "CAFE" standards (minimum corporate average fuel economy standards for light duty vehicles set by the National Highway Traffic Safety Administration), Ford, along with the other members of the Automotive Industry Action Group (AIAG), has been working with the U.S. Environmental Protection Agency to examine the assumptions that went into the creation of the standard, and remains committed to the current 2025 standard. For further background on CAFE and Ford's position, please see [pages 8 to 9 of our 2015 Annual Report](#). Ford is currently a member of the Technology Advisory Committee working with Michigan legislators on renewable energy policy, and is a signatory to the World Economic Forum's CEO Climate Leadership statement.

Products

Recommendation: Quantify and communicate Ford's vision of autonomous vehicles as an element of its sustainability strategy.

Ford response: Our Sustainable Business Strategy encompasses our core business as an automaker and new opportunities in mobility. As well as investing in and strengthening our core automotive business, we clearly outline how we are also pursuing emerging opportunities through Ford Smart Mobility, our plan to be a leader in connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics.

Recommendation: Describe electrification goals in greater detail.

Ford response: Our Sustainable Technologies and Alternative Fuels Plan involves the research and development of alternative powertrains and fuel options across our product range. Electrified vehicles are a key aspect of our updated Global Technology Migration Plan, which details a range of actions to improve fuel economy and reduce vehicle CO₂ emissions in the near, mid and long term. Our extended electrified

vehicle (EV) strategy involves significant R&D investment and an expanded portfolio of hybrid, plug-in hybrid and battery electric vehicles in the coming years. We have also developed a roadmap for migrating vehicle technologies toward lower carbon fuel options (see our Global Fuels Migration Path).

Supply Chain

Recommendation: Add necessary depth to the management of human rights risks in the supply chain.

Ford response: Our human rights and working conditions program is an integral part of our efforts to develop a more sustainable and ethical supply chain. As well as our ongoing program of risk assessment and auditing, training and education, we are moving beyond compliance by becoming the first automotive manufacturer to join the Electronic Industry Citizenship Coalition. Closer collaboration with our electronics suppliers, and others in the sector, will enable us to strengthen our engagement on human rights, working conditions, ethical sourcing and other sustainability issues throughout our supply chain. For further details of our approach to managing human rights risks, please see the Supply Chain section of this report.

Additional Stakeholder Recommendations

As in previous dialogues, Ford was not expected to act upon all the stakeholder recommendations prior to publishing this Sustainability Report. Rather, stakeholders ask us to use these recommendations to help guide continuous, near-term progress toward achieving sustainability objectives.

Any aspects of these recommendations that were not responded to in this report will be included for consideration in our integrated sustainability work stream, considered for future action and reporting, and treated as an input to our materiality analysis process.

Data Assurance

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

- Financial data was audited for disclosure in the Ford Annual Report on [Form 10-K](#)
- Verification data is not yet available for Ford's 2014 and 2015 global facility greenhouse gas (GHG) emissions. One hundred percent of Ford's 2014 and 2015 global facility GHG emissions will be third-party verified to limited assurance. Over 75 percent of Ford's 2014 and 2015 global facility GHG emissions will be third-party verified to a reasonable level of assurance. In addition, all of our European facilities impacted by the mandatory EU Emissions Trading Scheme (EU-ETS) are third-party verified. All EU-ETS verification statements are provided to Ford, by facility, from Lucideon (formerly CICS) for U.K. facilities, Lloyds for Spain, Intechnica for Germany and SGS for Belgium. North American facilities are verified against the Climate Registry's General Reporting Protocol. European facilities are verified against the EU-ETS rules and guidelines
- Ford reports facility carbon dioxide emissions to national emissions registries or other authorities in the United States, Canada, Mexico, Argentina, Brazil, China and Taiwan
- Various environmental data are reported to regulatory authorities
- Ford's facility environmental data are managed using our Global Emissions Manager database, which provides a globally consistent approach to measurement and monitoring

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

1. This synopsis draws from a summary of the stakeholder engagement process prepared by Ceres; however, it does not cover every point raised and was not reviewed by the participating stakeholders. The engagement was conducted under Chatham House Rules. Therefore, we are not able to attribute recommendations to specific stakeholders as that information is confidential.

Regional Reports

Ford is a worldwide organization with a presence in many countries.

The summaries in this section are designed to illustrate how we are implementing our Blueprint for Sustainability across all our operating regions, in line with the policies described in the global pages of our Sustainability Report.

The examples provided here do not reflect the full scope of regional activity. They are complementary to our global report and have been selected to give a flavor of local context, customer needs and material sustainability issues.

Read about how our automotive business sectors are working to create a strong business, great products and a better world:

- [North America](#)
- [South America](#)
- [Europe](#)
- [Middle East & Africa](#)
- [Asia Pacific](#)

North America

This section summarizes performance in our North American operations, which comprise the United States, Canada and Mexico. For details on our companywide approach including our Blueprint for Sustainability, please visit the global pages of our Sustainability Report 2015/16.

"In the past five years, the company has invested \$12 billion in its U.S. plants and created nearly 28,000 total U.S. jobs. We are proud that we employ more hourly workers and build more vehicles in the United States than any other automaker and remain committed to manufacturing in the United States, as we have been for more than 100 years."

Joe Hinrichs
Ford President, The Americas

AT A GLANCE

Approximately

96,000

employees in our North America automotive business.

29

manufacturing plants in North America – the company's largest manufacturing footprint.

Ford World

Headquarters
located at Dearborn, Michigan.

\$6.7 billion

engineering, research and development expenses.

PERFORMANCE SUMMARY Pre-Tax Profit, North America Business Unit

2015:

\$9,345 million

2014:

\$7,443 million

- Our North America region had an outstanding year, with key metrics improving compared with a year ago.
- The improvement reflected favorable volume and mix, higher net pricing, the success of new product launches, and industry growth in the region.
- The year-over-year increase in employment reflects hiring in North America to support product-led growth initiatives and increased vehicle production.

> For further financial analysis and outlook, please see the [2015 Annual Report \(Form 10-K\)](#)

North America: Strong Business

While strengthening our core automotive business, we are also pursuing opportunities through Ford Smart Mobility: our plan to take our company to the next level in connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics.

Investing in North America

We continue to invest in our people, facilities, tools and technologies to drive innovation and collaboration, and to keep us growing sustainably in the global marketplace for the benefit of all our stakeholders.

The new UAW-Ford collective bargaining agreement ratified on November 20, 2015, by United Auto Workers (UAW)-represented employees in the United States, provides a good foundation for Ford to create an even stronger business in the years ahead.

[Watch highlights from the UAW-Ford Handshake Ceremony](#)

In the United States, we opened our Palo Alto Research and Innovation Center, one of the largest automotive research centers in Silicon Valley, California, and invested \$168 million in our Ohio assembly plant.

In Mexico, we invested \$2.5 billion in our Chihuahua engine plant and a new transmission plant in Guanajuato – Ford's first in Mexico – generating approximately 3,800 direct jobs.

Transforming Our Dearborn Campus

In April 2016, we announced a 10-year plan to transform our Dearborn facilities into a modern, green and hi-tech complex, to help drive the company's transition to an auto and mobility company. Our current Research and Engineering Center will be redeveloped to become an innovative Product Campus, including a new Sustainability Showcase that will produce more energy than it consumes.

Starting in 2021, the iconic Ford World Headquarters will also be renovated to include enhanced green spaces with planted areas, native species and tree canopy. The Arjay Miller Arboretum, started in 1960, will be renewed.

Increased insulation, new glazing systems, state-of-the-art lighting and daylighting, and heat recovery will reduce overall energy use in new buildings by approximately 50 percent annually.

The project will use Living Building Challenge standards, and the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) gold and silver certification process.

[› VIDEO: The Dearborn campus transformation](#)

Ford Smart Mobility

Dynamic Shuttle Pilot, Dearborn

With potential future mobility solutions in mind, we have piloted on-demand ride-sharing, including a Dynamic Shuttle at our campus in Dearborn, Michigan.

Similar approaches might in future fill the gap between taxis and public bus services in cities. For emerging economies, where growth tends to outstrip development of the public transport infrastructure, the potential benefits are clear.

The Dynamic Shuttle pilot allowed us to test the Ford-developed software that enables ride requests to be fulfilled in the timeliest manner, while also cutting the corporate carbon footprint.

Another focus was to study how Ford vehicles – in this case, a Transit van – should be modified to make them more accommodating to consumers. As well as transparent fares and travel times, people told us they want enough personal space to feel comfortable, amenities such as Wi-Fi, space for small bags, and a less-than-five-minute walk to or from their pickup and drop-off points.

[› VIDEO: Dynamic Shuttle](#)

InfoCycle Research, Palo Alto and Dearborn

Our InfoCycle project looked at how bicycles can be best used in urban environments and be part of the internet of things.

We collected data and insights from bike trips made by our team of volunteer riders. One of the key findings was that both consumers and cities could make use of data from bike sensors. City planners could use the information to create bike lanes, and cyclists could get insights on best routes or real-time information on areas to avoid.

Specifically, bike sensor data can provide information about traffic patterns, pedestrians and road conditions that is difficult to obtain from vehicle sensors. In the future, this data may be combined with vehicle data to analyze road quality, characterize microclimates or identify traffic patterns throughout the day.

[› Learn more about the InfoCycle research project](#)

Investing in Environmental Innovation

Zero Waste to Landfill

Recent additions to our list of zero waste to landfill (ZWTLF) sites include our North American World Headquarter facilities and our Dearborn Research & Engineering Center. All our manufacturing plants in Canada and Mexico have achieved ZWTLF status.

At our Hermosillo stamping and assembly plant in Mexico, a composting initiative has helped minimize waste at the source, identify local recycling opportunities and develop local suppliers. Nearly 45 tons of cafeteria waste are composted to produce organic fertilizer, which is used by farmers close to the plant.

Closed Loop Aluminum Recycling

Our Dearborn stamping plant recycles up to

20 million pounds

of aluminum a month.

Our new closed loop aluminum recycling system at our Dearborn stamping plant reduces the cost of aluminum used to create the all-new F-150 pickup, increases resource efficiency and avoids waste entering the environment.

We worked with aluminum supplier Novelis to engineer, build and install a unique system whereby leftovers from the press lines are shredded, go into a central vacuum system, then a silo, and then a sealed truck for transportation to the mill furnace – all without human handling.

Recycling Metal in Swarf

When it comes to reuse and recycling, swarf (oily metal-containing waste) is a big challenge. Our Sharonville, Ohio, plant was previously sending the waste to a landfill, but with the help of UAW partners and contractors, the team finally found an organization nearby that would handle it. This is just one part of the plant's "green" operating system, including a collecting system that pulls oil particles out of the air and adds them back to oil for reuse. Reuse of the oil and recycling of the swarf as a raw ingredient in pig iron manufacture has diverted 600 tons of waste from landfill and saved an additional \$20,000 annually in landfill costs.

Water Conservation and Stewardship in Our Facilities

Our Hermosillo Stamping and Assembly Plant (HSAP) in Mexico is located in a water-stressed area. The paint shop uses the most water of any area in the plant, so HSAP made improvements to the phosphating (anti-corrosion and adhesion) technology and optimized water use in the phosphating tanks and cooling towers. These changes allowed the plant to save a quantity of water equal to that required to sustain over 1,000 families per month.

Recognition for Driving Change



From offering a range of fuel-efficient and electrified vehicles to its recycling practices and the use of sustainable materials, Ford of Canada has been recognized for its approach in the workplace and beyond by being named one of Canada's Greenest Employers (2016).

The award recognizes employers for their leadership in creating a culture of environmental awareness. Receiving the designation depended on an evaluation of key criteria, including unique environmental initiatives, environmental footprint, employee involvement and sustainability, being linked to the company's public identity. [Read more about the reasons why Ford in Canada was selected as one of Canada's Greenest Employers.](#)

Our Canadian business has also been selected as one of [Canada's Top 100 Employers \(2016\)](#), included in [Maclean's Sustainalytics 2015 index](#) of the Top 50 Most Socially Responsible Companies, and named among 22 customers of Canadian National Railway (CN) in recognition of its good sustainability practices.

Among the U.S. facilities recognized for environmental responsibility in 2015 was our Dearborn stamping facility, which received the Michigan Governor's "Closing the Loop" Recycling Award, and our Sharonville plant, honored with the Ohio Environmental Protection Agency's Encouraging Environmental Excellence Gold and Silver Awards.

North America: Great Products

Through our One Ford plan, we are focused on delivering product excellence with passion: accelerating the development of new products, and providing vehicles and services that our customers want and value.

Greener, Smarter Products

Outstanding results in our North American business were driven by successful product launches and strong demand for our newest vehicles, including the Ford F-150 pickup. Through our Ford Smart Mobility plan, we also are pursuing multimodal mobility solutions including eBikes.

Ford F-150: Fuel Efficiency, Alternative Fuels and Sustainability

The 2016 Ford F-150 includes the highest EPA-estimated highway fuel economy rating of any full-size gasoline pickup on the market, at 26 mpg.

Among many accolades received during the year for the F-150 was the 2016 Green Truck of the Year award, announced by *Green Car Journal* at the 2015 San Antonio Auto & Truck Show.

“The 2016 Ford F-150 is a great example of the environmental leadership that can, and should, be accomplished in the immensely popular pickup field,” said Ron Cogan, editor and publisher, *Green Car Journal* and *CarsOfChange.com*. “Milestone lightweighting through the extensive use of aluminum and high-strength steel, the availability of a powerful and efficient 2.7-liter EcoBoost V6, and a segment-exclusive gaseous fuel prep option that enables the F-150 to run on clean-burning compressed natural gas or propane are all important contributions that raise the bar in environmental performance.”

The F-150 also received the Green Car Technology Award™ and is the Insurance Institute for Highway Safety’s Top Safety Pick for SuperCrew and SuperCab configurations – the only large pickup to earn this recognition. [Read more about the F-150](#)

MoDe:Flex eBike

A core part of our Ford Smart Mobility plan is to develop multimodal solutions of the future, to help people move seamlessly across cities using different modes of transportation, including cycling and walking.

The MoDe:Flex, revealed in 2015, is our third eBike. It folds and stores inside any Ford vehicle where it can be charged while stowed. It connects with a rider’s smartphone via the MoDe:Link app, providing a seamless connection between hardware and software.

The app harnesses real-time information regarding weather, congestion, parking costs, time, traffic and public transportation. It includes eyes-free navigation, route planning, and health and fitness information, as well as helping to identify the most efficient and cost-effective mode of transport for a journey.

› [VIDEO: Multi-Modal Mobility Solutions](#)

Vehicle Quality and Customer Satisfaction

The following are key measures for North America in 2015.

Customer satisfaction increased to

81 percent

(2014: 79 percent) a 2 percentage point improvement

Service satisfaction with dealer or retailer (Net promoter score, Ford U.S. brand) remained at

75 points¹ (2014: 75 points)

Owner loyalty (Ford U.S. brand) was

48.5 percent

(2014: 50.4 percent). Owner loyalty is a measure of customers disposing of one Ford product and buying a new Ford product

Full-year “Things Gone Wrong” per 1,000 vehicles was

1,265

(2014: 1,392) a 9 percent improvement

Sales satisfaction with dealer or retailer (Net promoter score, Ford U.S. brand) remained at

87 points¹

(2014: 87 points)

There were

40 U.S. safety recalls

(2014: 40), affecting 4.99 million units (2014: 4.87 million units)

1. 2015 data for sales and service satisfaction are not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation changed in January 2015 and uses a consistent methodology across all global markets. The updated performance metric is based on a 6-question index comprised of key performance indicators for each Sales and Service. Reported metrics are based on customer ratings using a 5-point rating scale, and are summarized using a Net Promoter calculation.

› [For trends and commentary, see Products and Customers data in our global report](#)

North America: Better World

For decades, we have recognized the importance of being an active part of our communities and how corporate citizenship is integral to trust, reputation and sustainable business.

Ford Driving Skills for Life

Ford Driving Skills for Life (DSFL) is our free driver education program. In North America, we focus on helping teenagers – mainly first-time drivers – develop their skills in four key areas: driver distraction, speed and space management, vehicle handling and hazard recognition.

We offer Ford DSFL in the United States and Canada, and in 2015, we took the tour to Mexico for the first time.

In the United States, Ford DSFL has several signature programs and partnerships, including:

- **The Ford DSFL National Tour:** In 2015, we reached out to teens, parents and educators in 19 U.S. states through hands-on training sessions
- **Taking the Lead:** Co-sponsored by Ford Motor Company Fund, this one-hour presentation to high schools in Pittsburgh, Pennsylvania, includes a question-and-answer session with a panel of experts
- **Texas National FFA Partnership:** All FFA chapters in Texas are going through Ford DSFL Academy training and there will be a hands-on clinic at the statewide conference in July 2016
- **Strive 4 a Safer Drive (S4SD):** S4SD provides funding to Michigan schools to support peer-to-peer traffic safety campaigns. S4SD is sponsored by Ford Fund, the Michigan Office of Highway Safety Planning and AAA Michigan
- **Be in the Zone:** The program focuses on improving teen driver safety among rural youth in Tennessee through peer-generated anti-texting campaigns

Ford Volunteer Corps: 10 Years of Community Service



Ford employees volunteer year-round on a wide range of community service projects. In the United States, we celebrated 10 years of the Ford Volunteer Corps in 2015 by introducing two new initiatives – a global grant program called The Bill Ford Better World Challenge that will award grants of up to \$500,000 for Ford volunteer projects that transform life in their community, and Thirty Under 30, a unique program that taps into the growing interest among younger employees to become more involved in their communities.

The Ford Volunteer Corps also expanded Ford Global Week of Caring to Ford Global Caring Month in September. More than 2,000 Ford employees participated in 190 volunteer projects across 15 states during the first Ford Global Caring Month.

In Detroit, Michigan, we enlisted the iconic Spirit of Detroit sculpture to help us celebrate. The famed 26-foot statue was dressed in a blue T-shirt like the one worn by Ford volunteers during more than 8,000 community service projects in Detroit since 2005. Ford and its philanthropic arm, Ford Motor Company Fund, have invested nearly \$200 million in southeast Michigan over the past 10 years.

[› Read more about community service in Detroit](#)

Working with Dealerships to Make a Difference

In Canada, one of the ways we engaged with our dealerships in 2015 was to raise donations in support of local food banks. Ford collected more than

150,000 pounds

of food in collaboration with local schools.

Ford Driving Dreams is one of the pillars of Ford Motor Company Fund's educational programs. Initiatives include scholarships, dropout prevention grants, book donations and a motivational tour. As a further expansion of the program, we joined with Ford dealers in Houston and San Antonio, Texas, to support eligible seniors at selected local high schools with funding for scholarships, enabling them to pursue an education in science, technology, engineering and math (STEM).

Our annual Salute to Dealers awards recognize dealers who go above and beyond when it comes to giving back to the communities in which they live and work. As part of the awards, the Ford Motor Company Fund is donating \$10,000 to a charity chosen by each winning dealer.

[› Read more about Ford's Salute to Dealers](#)

For the second year in a row, Ford and Lincoln dealers in the United States gave nearly \$100 million to local causes and community nonprofits in 2015, according to the company's annual Survey on Dealer Giving.

Partnering with Community Organizations to Enhance Lives

In Canada, we have joined with Free The Children, an international organization that believes in a world where all children are free to achieve their fullest potential. We are partnering on a number of programs including We Day, a series of events where celebrities and thought leaders prompt young global citizens to take action for change. This also includes a series of Drivers of Change workshops to encourage youth leaders in their local communities.

In the United States, we are taking our Ford Freedom Unsung program to a national level by collaborating for the first time with Tom Joyner Foundation. The Ford Freedom Unsung award honors the outstanding achievements of ordinary people performing extraordinary work in the African American community.

South America

This section summarizes performance in our South American operations. For details on our companywide approach including our Blueprint for Sustainability, please visit the global pages of our Sustainability Report 2015/16.

"Our vision is nothing less than to change the way the world moves, which brings us new challenges, including advancing in the mobility field and developing innovative technologies. In South America, we are facing an even more challenging moment due to the current business environment. To overcome that, we are investing in a strong future – including introducing new technologies in the region to make people's lives easier and safer, and promoting and supporting the mobility discussion. Our social responsibility initiatives support our business strategy. We believe in education as a transforming force in society, which not only amplifies young people's opportunities of integration in the labor market but also helps individuals develop as citizens. At Ford, taking care of people and being committed to improving community life is the very definition of sustainability. Our goal is not only to build great products and a strong business in the region; we are also committed to building a better and sustainable world for all."

Steven Armstrong
President, Ford South America

AT A GLANCE

2

primary markets: Brazil and Argentina

~15,000
employees

4th

largest automaker

8

manufacturing plants

PERFORMANCE SUMMARY Pre-Tax Profit/(Loss), South America Business Unit

2015:

(\$832 million)

2014:

(\$1,162 million)

- Our operations in South America have faced challenging economic conditions including reduced industry volumes, high inflation and devaluation of exchange rates.

> For further financial analysis and outlook, please see the [2015 Annual Report \(Form 10-K\)](#)

South America: Strong Business

Our team is working across all areas to counter the effects of a difficult business environment. We are also preparing the business to recover quickly once economic conditions improve.

As part of Ford's global transformation to become both an auto *and* a mobility company, we have continued to introduce in-car technologies while supporting and promoting creative mobility solutions for the region.

Best Corporate Reputation Rankings

In the 2015 Merco Top 100 Best Corporate Reputation rankings in Argentina, Ford was ranked eighth, making the top 10 for the first time. Ford is the third-highest automaker in this year's ranking, behind Mercedes-Benz and Toyota.

Additionally, Ford was 11th across all sectors in the Best Corporate CSR & Good Governance ranking, and first among original equipment manufacturers (OEMs). This ranking analyzes ethical behavior, governance and transparency, human resources practices, environmental commitments and community contribution.

Based on the opinions of 409 business leaders, 434 experts and 2,271 consumers, the rankings are conducted by the Instituto de Análisis e Investigación from Spain, audited by KPMG and published by Clarín, Argentina's largest national newspaper.

Ford Argentina was also the highest ranking in Mercado magazine's online reputation rankings, and placed 14th among top companies in Argentina.

Creative Mobility Solutions in Brazil

In October 2015, Ford promoted the Mobility Future seminar gathering in Brazil, to explore different aspects of mobility from the point of view of government, academia and technology developers.

Our Innovate Mobility Challenge series, part of the Ford Smart Mobility plan, is designed to encourage creative solutions to mobility issues in large cities.

São Paulo hosted the 2015 edition of the challenge, encouraging global and national developers to create apps that integrate car and public transport use. The global winner was [Roll Together](#), a cloud-based solution combining GPS and real-time vehicle data to help design future metro routes.

From 200 applicants who entered the national competition, Gabriel Araújo won with his [Muwall app](#), which provides guides to integrate public transport, carpooling and other forms of transportation.

Second-placed Ernani Machado developed the [MOBQI app](#), which gathers information about buses and taxis, interacts with other services, and can send transport alerts to the police.

In third place, Enrique Maelgarejo's [Vita App](#) helps users to choose the best available route in real time.

Collaborating on Mobility in Argentina

Collaboration and innovation are key to the Ford Smart Mobility plan and to developing sustainable transportation of the future.

With this in mind, Ford was a keynote speaker at a workshop held in Argentina on "Cities and Companies: Towards a New Urban Agenda." Fifty Ford executives, whose remits include corporate social responsibility, sustainability and ecology, took part. Discussions focused on the trends, challenges and potential solutions related to the needs of megacities in Latin America.

The workshop was organized by the Argentine Enterprise for Sustainable Development (CEADS; the local institution representing the World Business Council for Sustainable Development) and was sponsored by the Argentine Institute of Corporate Social Responsibility (IARSE).

Democratizing Technology

Connectivity, enabled by our SYNC technology, is a key pillar of our Smart Mobility plan.

Making smart technologies available to more people is core to Ford. The all-new Ford Focus, unveiled for the first time in South America in 2015, has technology to make driving easier and safer, with driver assist features including Active City Stop, Perpendicular Park Assist, and Emergency Braking (Brazil only). The vehicle also uses SYNC AppLink, enabling drivers to voice-control smartphone apps from the driver's seat.

In January 2016, Ford was the only automaker to participate in Campus Party Brazil, the biggest technology show in South America attended by 8,000 developers and startups, where we announced the launch of SYNC 3 for Brazil. The innovative Garage Lab on our stand showcased new opportunities for using technology to improve the consumer experience.

Creating a Strong Manufacturing Base

Manufacturing excellence enables us to deliver the products our customers want and value, while driving environmental improvement and reducing our facility greenhouse gas footprint.

Manufacturing in Argentina

\$770m

investment in Argentina, 2011 to 2016.

Between 2011 and 2016, Ford's investment in Argentina amounts to \$770 million. Our continuing investment in new products and production facilities is key to growing further in the region.

In May 2015, we announced a \$220 million investment in new vehicle production, component manufacture and the modernization of our Pacheco plant. The facility, which employs about 4,000 people, makes the Ford Ranger and Focus, as well as diesel engines for Ford pickups.

Manufacturing in Brazil

Between 2011 and 2015, Ford invested heavily in Brazil. The company's investment of \$2.07 billion focuses on incorporating state-of-the-art technology and offering a lineup of global products. These include the Ford EcoSport and the Ka – developed and produced in Camaçari, Bahia state.

Conserving Water in Our Brazilian Plants

OUR PERFORMANCE

35.8% reduction

in water consumption at our São Bernardo plant.

› [DATA: Water](#)

In the city of São Bernardo in São Paulo state, where water supplies are critically low due to drought that affects the whole region, Ford was honored with a water stewardship award from the local authorities.

Our São Bernardo plant reduced water consumption by 35.8 percent during the last five years, saving 863,700 cubic meters. A range of water-saving initiatives contributed, including a dry-cleaning process for fleet vehicles, flow reduction valves, water meters, rainwater harvesting and awareness-raising campaigns.

Our Taubaté plant in São Paulo state uses recycled treated water to supply the plant fire protection system as well as to support the on-site lake, providing shelter to migratory birds.

In 2015, Ford was one of only eight multinationals to be included in the CDP Water 'A' list, the leading global index.

Employee Safety, Health and Well-Being

Safety at Work

OUR PERFORMANCE

Zero fatalities

involving employees or contractors in South America, in 2015 and first quarter 2016.

› [DATA: Workplace safety](#)

Our safety culture in South America mirrors Ford's global safety strategy under the banner of "We take care of each other." Implementing this with partners and contractors in the region is challenging, as attitudes can differ significantly from Ford's rigorous standards.

We deploy specific procedures for contractor safety management across all locations. Before starting work, contractor representatives must meet with Ford to review safety procedures and to demonstrate legal compliance.

This is followed by mandatory induction training, briefings and risk assessments at subsequent stages, involving all employees assigned to the task; only then can the contractor start work. Monitoring and assessment using our Safety Behavior Index continues during the contract.

Health and Well-Being

According to the Closest Automotive Brands ranking, developed by Havas Media, Ford Argentina was top for closeness and contribution to community life, and shared first position with Volkswagen in the Familiarity and Involvement and the Personal Well-Being categories.

We use the four pillars of movement, good nutrition, disease prevention and substance-free living to support healthy lifestyles among our workforce in South America.

Health screenings, educational programs and campaigns are tailored to meet local health priorities. Some initiatives, such as introducing smoke-free plants and facilities, have been implemented across the region.

Our initiatives go beyond our employees to reach families and communities. Nutrition initiatives are targeted at entire households, including our employees, as this engagement is needed for initiatives to succeed. We also reach out to the community to involve them in disease-prevention efforts.

At our on-site gym at our Pacheco plant in Argentina, extra sessions by trained instructors focus on exercises for desk-based employees while at our Tatui Proving Ground in Brazil, our fourth annual in-house running event attracted 130 participants.

South America: Great Products

South America is a dynamic market dominated by entry-level vehicles, which have been hit hardest by the economic downturn. Ford offers a complete portfolio, ranging from B-platform cars to extra heavy trucks, and has performed well in all segments.

We continue to improve the fuel economy of our vehicles through efficient engine and transmission technologies and by offering alternative fuel powertrains. However, “green” vehicles are still far from being affordable in the region.

Vehicle Quality and Customer Satisfaction

The following are key measures for our South America region in 2015:

- Customer satisfaction increased to 70 percent (2014: 68 percent), a 2 percentage point improvement
- Full-year “Things Gone Wrong” per 1,000 vehicles was 1,207 (2014: 1,472), an 18 percent improvement
- Sales satisfaction with dealer or retailer improved by 0.9 points from 2014 to 2015, and continues growing in 2016¹
- Service satisfaction with dealer or retailer decreased by 1.0 points in that time, but recovered in 2016¹

› [For trends and commentary, see Products and Customers data in our global report](#)

Greener, Smarter Vehicles

In South America, as in other parts of the world, we comply with all relevant policies and regulations on emissions and biofuels which, like regulations in other regions, continue to evolve. For further details on vehicle fuel economy and greenhouse gas legislation in the region, please see [page 10 of the 2015 Annual Report \(Form 10-K\)](#).

We continue to develop our lineup and work on reducing the environmental impacts of our products. This year marked:

- Completing five years of sales of the Fusion Hybrid, the only hybrid model with commercial scale in Brazil
- Presenting the new Mondeo in Argentina, equipped with Lane Keeping, Fatigue Detector, Active Park Assist and SecuriCode systems
- Winning eight award categories from the Best Cars website in Brazil with Ka 4-Door, new Fiesta Hatch, new Fiesta Sedan, Focus 4-Door, Fusion, Edge and Ranger, as well as the classic Maverick
- Ford Focus being selected by Car&Driver Brazil magazine as the best premium mid-size hatchback based on technological innovation, economy, safety, performance, driver satisfaction, comfort, market relevance and respect for the environment
- Winning six award categories in the “2015 Best Cars” sold in Brazil, according to the *Estado de São Paulo*, one of the country’s most important newspapers.

Vehicle Safety

Additional safety requirements are being introduced or proposed in Argentina, Brazil, Chile, Colombia, Ecuador and Uruguay, influenced by The New Car Assessment Program for Latin America and the Caribbean (Latin NCAP).

Performance headlines from the 2015 Latin NCAP include the following:

- Ford Ka achieved four stars for adult protection and three stars for child protection in the 2015 Protocol of Latin NCAP (tested in November 2014). From model year 2017, our Ka lineup is equipped with a rear-central three-point seat belt and standard rear headrest

- Ford Ranger achieved three stars for adult protection and four stars for child protection in the Latin NCAP (2016 Protocol). NCAP tested a three-airbag, non-ESC model; however, 90 percent of our South America models include seven airbags and ESC as standard

1. 2015 data for sales and service satisfaction are not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation changed in January 2015 and uses a consistent methodology across all global markets. The updated performance metric is based on a 6-question index comprised of key performance indicators for each Sales and Service. Reported metrics are based on customer ratings using a 5-point rating scale, and are summarized using a Net Promoter calculation.

South America: Better World

Ford has a proud history of supporting communities in South America. Providing assistance to address societal issues and environmental challenges aligns with our company’s values and goals and is an important part of what we do.

Free Mobile Dental Service in Brazil

Many truck drivers in Brazil face grueling schedules and journeys, with little opportunity or financial means to visit a dentist. With this in mind, 15 years ago Ford Trucks provided Odontomóvel: a complete mobile dental health service, and the largest in Brazil. As of 2015, the service has provided free dental work to 50,000 truck drivers, as well as to children and communities in remote locations.

Ford commercial trucks are converted and equipped to provide all types of dental treatments, from cleaning and fillings to crowns and surgical procedures. A national clinic, using the platform of a Cargo 816 commercial truck, visited 19 cities in 14 states during 2015, traveling nearly 30,000 kilometers.

“If a truck driver can’t stop working, we bring the dentist office to their workplace, which is the highway. It is a project aimed to improving the quality of life for these professionals, as well as their health and safety on the roads.”

Antonio Balta

Sales and Marketing Manager, Ford Trucks Brazil

Promoting Children’s Dental Health

The Odontomóvel has traveled more than 496,000 km across Brazil over the past 15 years.

In Camaçari, one of the regional projects uses a Ford Transit van converted into a dental clinic. Active since 2011, the service focuses on children aged 2–15 in public schools selected in partnership with the Municipal Departments of Education and Health, prioritizing those regions with low provision of dental services.

Since 2011 and until the first quarter of 2016, the Odontomóvel Camaçari has provided more than 43,100 individual and collective actions, including dental treatments, fluoride applications, brushing techniques, games and interactive presentations.

The most recent units of the Mobile Dental Unit were created in 2015 using F-350 truck platforms, which provide a complete infrastructure for a variety of dental procedures, geared toward public school students in Taubaté and Horizonte. The initiative seeks to improve oral health habits through educational efforts, as well as providing individualized care for children aged 2–13.

Sustainable Backpacks for Schoolchildren

Between 2004 and 2016, Ford will have distributed

30,000

sustainable backpacks to schoolchildren.

Each year, Ford distributes 10,000 sustainable backpacks to public schoolchildren in Camaçari, Brazil, in partnership with Projeto Axé, a leading NGO.

As well as helping motivate the children to study, the backpacks have other benefits as they are made from recycled Ford uniforms, by women from the local community. Training is offered to help the women become seamstresses, a skill that will provide them with extra income in the future.

The project also contributes to improving the self-esteem of underprivileged youth served by the Projeto Axé, who take part in workshops to create a component of the backpacks.

Education Programs in Brazil

Environmental Education

We reached

1,294 students

and

122 teachers

with environmental education in 2015.

We welcome students and educators to Ford's Environmental Center at our plant in Camaçari, to take part in educational and practical experiences about nature, sustainability and conscious consumption.

In 2015, the project benefited 1,294 students and 122 teachers from 40 public schools in the district, and was honored at the 2015 Global Diversity and Inclusion Awards in the External Partnerships category.

Nature activities focus on the vertical garden and worm farm, and include composting and rainwater capture. There is also a plant nursery on site, and the seedlings of native species are used in an afforestation program.

To manage the project, the Center works with Sesi, the Brazilian industrial social service, and the Camaçari Education Department.

Education to Support Disadvantaged Youth

In October 2015, Ford introduced an educational program for disadvantaged young people in Camaçari to help prepare students from public schools to enter the labor market.

The students receive guidance about behavior in the work environment, and review Portuguese, math, English and technical opportunities taught by SENAI, the national vocational training body. As well as food and transportation, the students are offered dental treatment with the Ford Odontomóvel mobile service, and have the opportunity of visiting Ford's plant and interacting with the company's executives during presentations about careers.

The program is supported by the Ford Fund and created through a partnership with Brazilian industry education bodies Sesi and SENAI.

Education Programs in Argentina

41 schools

were built and donated between 1968 and 1982.

With the Ford dealers network, 41 schools in rural and border areas were built and donated between 1968 and 1982 through the Education for a New Tomorrow program. The program is now revamping these schools and retrofitting them with new facilities. To date, 23 have been refurbished and the program will continue through 2016.

The Henry Ford Technical School (HFTS), located inside our Pacheco plant, is another key education initiative, which in 2015 celebrated its 50th anniversary. The [HFTS](#) is a mixed-genre secondary school open to the community, and has 210 students and 1,188 graduates.

We support a range of other organizations including Conciencia, San Andreas Foundation, Las Tunas NGO and Cimientos to deliver programs designed to encourage respect between classmates and support continuity of learning. For example:

- The "Convivir" program provides bullying prevention education for primary school children and aims to reach 4,800 children in 54 schools
- "Futuros Egresados" provides assistance to help reduce the high school dropout of teenagers from vulnerable communities. Ford Argentina participates in this countrywide program with 30 scholarships at a high school near its Pacheco plant
- "Abanderados Argentinos" is a program for outstanding high school graduates without the financial means to go to college
- Ford's contribution to the Las Tunas Child and Youth Orchestra is helping 58 children living in a vulnerable community to develop their musical skills, confidence and self-esteem

Education Programs in Venezuela

More than

100 children

came on school visits to our Venezuela manufacturing plants in 2015.

Leading Your Future is our new automotive training program focused on technical and interpersonal skills. We reach 60 young people every year from communities near our Valencia assembly plant. Each participant obtained their Automotive Basic Mechanics Diploma, awarded by the University of Carabobo. The program also includes a module to support participants in going back to school, finding employment or becoming entrepreneurs.

Through our Leading the Vision of the Future school visits, we want to demonstrate the possibilities of decent employment in the auto industry. Ford volunteers give presentations and encourage the students to continue their education as the first step to building a career later in life. At the end of the day, each child receives a backpack filled with useful school supplies.

Our Global Caring Month

In **Argentina**, 717 employee volunteers took part in our Global Caring Month:

- With Movimiento Agua y Juventud, more than 35 volunteers planted 46 trees around our facilities
- 70 volunteers helped sort and pack nearly 12,000 kg of food at the local food bank – enough to provide almost 35,000 meals
- 24 volunteers and Habitat for Humanity helped a family refurbish their home
- More than 523 volunteers participated in a sponsored run
- Five tons of non-perishable food and toiletries were donated to schools in need of supplies
- With the Instituto de Hemoterapia, 26 volunteers participated in blood donation
- With community organization TECHO, 20 volunteers built emergency housing for a family living in the Los Hornos neighborhood of La Plata
- Nine manufacturing volunteers gave donations and spent the day with 21 children from Our Home, an institution for children without families

In **Brazil**, Global Caring Month activities were based on recommendations from local citizenship committees of Ford workers:

- At our São Bernardo do Campo plant, volunteers helped remodel and paint the Maria Amélia children's center
- In Taubaté, employees provided maintenance and painting assistance at Banco de Leite Humano, which treats and distributes mother's milk to neonatal intensive care units. The Ford logistics team also provided consultancy to reduce the costs of analyzing, pasteurizing and transporting milk to the region's hospitals
- At the Camaçari plant, Ford volunteers helped build two classrooms at a community school and daycare center, as well as engaging children on dental health through games and play
- Employees at the Ford Proving Grounds in Tatuí revitalized the headquarters of the Arte Pela Vida, a project that offers social and educational activities to underprivileged children

In **Venezuela**, more than 100 workers at our Valencia plant supported the Jesús Obrero de Guacara Vocational Training Center, which trains 420 young people annually. Our volunteers gave more than 100 hours of lectures in 2015 about customer service, accounting, manufacturing, security and other topics.

During September 2015, our workers also provided 250 hours of assistance to restore the Jesús Obrero Center's brakes workshop, helping to positively impact the quality of future professional training provision offered by the Center.

Europe

This section summarizes performance in our European operations. For details on our companywide approach including our Blueprint for Sustainability, please visit the global pages of our Sustainability Report 2015/16.

"When a major automotive company faces an emissions testing issue, it can raise questions about the entire industry. Let me be absolutely clear: we do not use illegal 'defeat devices.' Our award-winning vehicles and engines meet all applicable emissions standards in Europe, and we proactively support the development of new emission regulations within the E.U. Our ethical approach to sustainable business is the cornerstone of consumer trust, and we are determined to remain focused on what we do best – investing resources to create a great customer experience and to continue to strengthen our reputation as a leader in mobility."

Jim Farley

Executive Vice President, Ford Motor Company, and President, Europe, Middle East & Africa

AT A GLANCE

Ford produces, sells and services vehicles in

50

European markets

53,000

people are employed in Ford's wholly owned facilities

5

engineering, research and development centers

24

manufacturing plants¹

1. 16 wholly owned or consolidated joint venture facilities, and eight unconsolidated joint venture facilities.

PERFORMANCE SUMMARY Pre-Tax Profit/(Loss), Europe Business Unit

2015:

2014:

\$259 million **(\$1,062 million)**

- Ford of Europe has improved its business in all areas, moving into profit in 2015.
- We're now accelerating our plan to deliver a vibrant and sustainably profitable business in the region.

> For further financial analysis and outlook, please see the [2015 Annual Report \(Form 10-K\)](#)

Europe: Strong Business

By offering exciting new mobility solutions and building a strong manufacturing base, Ford is delivering our strategy of being a leader in automotive and mobility. As we implement our European transformation plan, sustainability underpins our efforts to strengthen our business and deliver profitable growth.

Building a Sustainably Profitable Business

After returning to profit in 2015, we're [accelerating our European transformation plan](#) to create a vibrant business that's profitable in both good times and bad.

Our European strategy calls for a more streamlined and profitable product line; more emotional brand communications; and a leaner cost structure to lower, break even and help offset growing regulatory costs. These measures are designed to drive a more efficient business.

Making vehicles as efficiently as possible and in a way that serves customers' needs and desires is part of creating a truly sustainable, customer-focused business.

Ford Smart Mobility: Strengthening the Brand

The Ford Smart Mobility plan is an important part of our European transformation. It will leverage opportunities for new revenue streams based on customer loyalty, multimodal transport services, fleet services and ride services.

FordPass®

As an initial step, we announced the launch of FordPass, our new customer experience platform, in Europe in 2016. FordPass Marketplace offers access to mobility services and partners; FordGuides to help members resolve mobility challenges; Appreciation, where members will be rewarded for engaging with Ford; and FordHubs for consumers to explore Ford innovations, learn about our mobility services and experience exclusive events. The first European FordHub will open in London.

Case Study:

FORDPASS: ENHANCING THE CUSTOMER EXPERIENCE

- Our collaboration with BP will reward members with exclusive offers and geolocation services. In the future, FordPass may enable members to search for nearby BP locations and help members to fill up at the right time
- Through an existing partnership with Flinkster, a leading car-share company in Germany, FordPass offers 24-hour access to more than 4,000 cars countrywide
- Parkopedia, the global database for parking spaces, allows FordPass members to search for parking, based on location, cost, availability and user ratings. In addition, as an on-street parking payment provider, Mobile City will provide a seamless parking experience by enabling drivers to pay fees through FordPass

GoDrive: Car Sharing in London

More than

72%

of Europeans are interested in car sharing. Among the big five European countries, interest is highest in Italy and Spain (83 percent and 78 percent respectively), and lowest in the UK (59 percent).¹

First launched as a pilot, we made our [GoDrive](#) car-sharing service in London available to the public in May 2015 by inviting 2,000 people to register for a free service offering 50 cars across 20 locations.

Using feedback from the initial pilot of 100 registered members, the service has been designed to offer flexible, practical and affordable access to a fleet of cars for one-way and return trips, with guaranteed parking throughout the city.

Ford research indicates that car clubs currently are perceived as inflexible when it comes to booking, time slots and return locations. GoDrive's offer of one-way, pay-as-you-go journeys provides flexibility and gives drivers more opportunity to car share.

Intended to complement existing transport systems for integrated journeys, GoDrive's pay-by-minute pricing covers congestion fees, insurance and fuel. Drivers use a smartphone app to easily reserve and access a car.

The zero-emission Focus Electric makes up half of the GoDrive fleet, and the fuel-efficient Fiesta 1.0-litre EcoBoost is also available.

Case Study:

GODRIVE FOR LONDON HOTEL GUESTS

We have extended the GoDrive service [with a new hub at the Limehouse Holiday Inn Express](#), adding to the network of 25 hub locations across London. The new hub allows Ford to explore how visitors to the city, on vacation or on business, can benefit from access to flexible car sharing.

"GoDrive is one of the most exciting car-sharing services out there. We've been impressed with how the GoDrive team is listening to its customers and adapting the service. We'll be watching closely to see what our guests think and whether the same offer can be transferred to other hotels."

Scott Rankin

General Manager, Holiday Inn Express London, Limehouse

Exploring Mobility Solutions Through Gamification

Gamification has proven a powerful problem-solving tool in AIDS research, where a significant breakthrough was achieved through an online video game called Foldit.²

To encourage similar creativity and innovation, we launched the Ford Smart Mobility Game Challenge in collaboration with Cologne Game Lab, inviting developers to turn integrating different city transport modes into online games. At Gamescom 2016, we announced [social journey-sharing app Jaunt](#) as the winner. Jaunt enables users to create journeys, and join those created by others, for faster or more scenic routes. It's designed to help save money, make friends and alleviate congestion by connecting with others for journeys by car, bicycle and public transport.

SelfieGo, from Scotland, was the second prize winner with an app that gets commuters on their bikes and on foot with a selfie challenge, while third-placed Flux seeks to alleviate congestion through gaming.

The challenge followed a Ford-commissioned survey of commuters in major European cities, which showed that most people consider their journey to work more stressful than their actual jobs.³ In contrast, when applied to journey planning, gamification can engage, reward and empower people to improve their commutes, track their success and become aware of how their behavior impacts the wider transport infrastructure.

Manufacturing Excellence and Efficiency

Flexible, efficient manufacturing and assembly operations contribute to the business by supporting delivery of our Blueprint for Sustainability and our transformation plan for Europe. This is why we are driving improvements in our European manufacturing operations, targeting efficiencies of greater than 7 percent year-over-year, and improving manufacturing capacity utilization.

The Ford Production System (FPS) is our global approach to manufacturing, encompassing people, structures and processes working together in a disciplined and predictable way to deliver high levels of manufacturing safety, quality and efficiency.

[› Read more about the global rollout of FPS](#)

Energy Management Operating System

Our facilities in Cologne and Saarlouis, Germany, have achieved the prestigious International ISO 50001 standard for energy management and efficiency.

Finding new ways to reduce energy demand and conserve natural resources requires continual effort.

We rolled out a new Energy Management Operating System (EMOS) within the FPS throughout Europe in 2015, enabling our teams to manage demand and remotely control plant energy and heating systems for greater energy efficiency.

“Doing the same for less” is the motto emblazoned on the Ford Land Energy Efficiency Team flag, and EMOS is helping to deliver that promise by driving investment in modern production facilities and manufacturing processes.

EMOS also highlights the importance of shutting production machinery during weekends and holidays, and it encourages staff to switch off computers and the lights at the end of the working day. Plant Energy Teams have been installed at all Ford production facilities in Europe to implement EMOS and encourage people to buy into the energy-saving ethos.

Case Study:

INVESTING IN INNOVATIONS TO SAVE ENERGY AND EMISSIONS

Investments totaling €23 million in our European factories have contributed to Ford achieving its global goal of a 25 percent reduction in energy usage, per vehicle produced, from 2011 to 2016. This translates into an annual saving across Europe of about 800 gigawatt hours – roughly the amount of energy used in a year by a city with a population of 170,000.

Our energy-saving measures include a system that recovers heat energy from the paint oven exhaust stacks and returns it as useful heat into the district water heating system. The system in Cologne, Germany, has delivered 16 gigawatt hours since startup in November 2013; a similar system is now operational in Ford’s operations in Saarlouis and a further one is planned for its factory in Valencia, Spain.

1. Survey of 10,016 people across France, Germany, Italy, Spain and the U.K. conducted for Ford Motor Company by Opinion Matters during April 2016.
2. Foldit players competed to predict the structure of protein molecules and in less than three weeks cracked the code of a retrovirus enzyme that had stumped scientists for more than a decade.
3. [Commuter Anxiety Survey](#) of 5,500 commuters in major European cities conducted for Ford Motor Company by Opinion Matters during April 2015.

Europe: Great Products

Developing our lineup of affordable, high-quality vehicles with advanced fuel efficiency and safety features is key to ensuring long-term business success.

Greener, Smarter Vehicles

Award-Winning EcoBoost®

Ford’s EcoBoost® engine lineup offers a combination of fuel efficiency and power to meet a wide range of driver needs. Our 1.0L EcoBoost has become one of the most popular engines for Ford in the European market, and is available on 10 Ford cars and commercial vehicles across the region.

Our 1.0L EcoBoost won the “Best Engine Under 1.0-Liter” title for the fourth consecutive year in the International Engine of the Year awards in 2015. This was the eighth trophy it has won at the awards, and it remains the only engine to have won three overall Engine of the Year titles (in 2012, 2013 and 2014).

Ford Mondeo: Winning on Fuel Efficiency

The ALD Ecomotion Tour in Spain aims to demonstrate the importance of efficient driving and in the 2015 event, the Ford Mondeo was top for efficiency in the passenger cars category. The 23 participating vehicles from 18 different automakers marked a record turnout for this competition, organized by the renting and fleet management division of Société Générale.

Driven by a journalist and a brand representative, each vehicle had to complete a 300 km route in Spain between Las Rozas, Madrid and Almagro.

Driving Sustainability Through the Vehicle Life Cycle

We use a whole life cycle approach to product development, assessing and continuously improving sustainability attributes through the Ford Product Sustainability Index (PSI). The PSI shows improved environmental, social and economic performance of our new vehicles over their life cycle when compared with previous models.

[› A Life Cycle Approach](#)

Vehicle Emissions

Our efforts to improve fuel efficiency are paying off. Ford offers a broad range of affordable low-CO₂ vehicles in Europe, having reduced the average CO₂ emissions of our European car fleet by around 21 percent between 2006 and 2015.

In September 2015, the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) announced that they were investigating a major competitor in connection with its alleged use of “defeat devices” in hundreds of thousands of light-duty diesel vehicles. The announcement triggered similar investigations of the competitor by regulators in other countries.

Illegal defeat devices are elements of design (typically embedded in software) that improperly cause the emission control system to function less effectively during normal on-road driving than during an official laboratory emissions test, without justification. They are prohibited by law in many jurisdictions, including Europe and the United States.

OUR PERFORMANCE

Ford Europe CO₂ tailpipe emissions per passenger vehicle, grams per kilometer 2015:

118.2g/km¹

(2014: 113.7g/km²)

Ford Switzerland CO₂ tailpipe emissions per passenger vehicle, grams per kilometer 2015:

131.84g/km³

(2014: 126.06g/km⁴)

1. 2015 values are preliminary data published by the EC. Official data will be published by the EC in the fourth quarter of 2016.
2. For 2014, final official data from the EC was published October 2015 for passenger cars (vehicle category M1). Only 80 percent of the best-CO₂-performing fleet vehicles are accounted for in 2014 "phase-in" data as part of the EC's phase-in plan.
3. 2015 values are preliminary data published by the Swiss Government.
4. 2014 only 80 percent of the best-CO₂-performing fleet vehicles are accounted for in 2014 "phase-in."

› [DATA: Vehicle Fuel Economy and CO₂ Emissions](#)

Ford is in compliance with regulatory requirements worldwide; we have processes and controls in place to ensure ongoing compliance. Ford already has a multifaceted program for avoiding illegal defeat devices. The investigations by the EPA and CARB of our competitor have led to increased scrutiny of automakers' emission testing by regulators around the world.

Ford is the only automaker named to the "World's Most Ethical Companies®" list (2016) by Ethisphere Institute.

In Europe, the European Commission has proposed new RDE (Real Driving Emissions) legislation, which will require manufacturers to conduct on-road emission tests using portable emission analyzers. These on-road emission tests will complement the laboratory-based tests. During the initial phase, the RDE tests are used for monitoring purposes. Beginning in September 2017, manufacturers will have to reduce the divergence between the regulatory limit that is tested in laboratory conditions and the values of RDE tests (known as the "conformity factor").

Ford proactively supports the development of new emission regulation within the EU, especially the introduction of the new laboratory test-cycle WLTP (Worldwide harmonized Light vehicles Test Procedures) and RDE. This ensures that future test procedures more closely match the real-world conditions that customers experience under normal driving and is part of our contribution to improve the air quality in urban areas. However, we expect significant cost implications due to the additional test effort and use of further diesel exhaust after-treatment systems.

The on-road fuel efficiency and emissions experienced by drivers under real-world conditions varies, as it depends on many external factors, such as traffic conditions, terrain and driving behavior. The implementation of the RDE will therefore trigger significant hardware changes to future vehicles, especially for diesel engines, including the use of Lean NOx Traps and urea-based SCR catalytic converters. Our aim is to keep the diesel engine as an accepted, fuel-efficient and affordable alternative also in urban areas, because advanced, cleaner diesel engines remain an important technology to achieving CO₂ reductions in the near and mid-term.

Vehicle Safety

Ford is the most rewarded company in Euro NCAP history.

Euro NCAP is Europe's largest independent authority on vehicle safety, and [Ford is the most rewarded company in Euro NCAP history](#). Ford has received five Best-in-Class Awards from Euro NCAP – more than any other manufacturer – and once again, in 2015, we received high marks and accolades for vehicle safety in a number of the industry's key public and private crash-testing programs.

Twelve Ford vehicles now hold a maximum 5-Star Euro NCAP safety rating, two more than the next best manufacturer. These vehicles are the Ford B-MAX, C-MAX, Grand C-MAX, S-MAX, Fiesta, Focus, Galaxy, Kuga, Mondeo, Tourneo Connect, Transit Tourneo and Ranger.

We have four vehicles that lead their segments and seven Euro NCAP Advanced Rewards – more than any other manufacturer – for our innovative safety technologies: Active City Stop, Driver Alert, SYNC with Emergency Assistance, Forward Alert, Lane-Keeping Alert, Lane-Keeping Aid and MyKey.

Vehicle Quality and Customer Satisfaction

In 2015, customer satisfaction and internal quality control metrics reached their highest-ever levels across our European operations.

Our customer satisfaction score was

75 percent

(2014: 73 percent) a 2 percentage point improvement

Sales satisfaction with dealer or retailer (Net Promoter Score) was

85¹

Owner loyalty² increased to

56 percent

(2014: 54 percent)

Full-year "Things Gone Wrong" per 1,000 vehicles was

1,232

(2014: 1,302) a 5 percent improvement

Service satisfaction with dealer or retailer (Net Promoter Score) was

73¹

1. 2015 data for sales and service satisfaction are not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation changed in January 2015 and uses a consistent methodology across all global markets. The updated performance metric is based on a 6-question index comprised of key performance indicators for each Sales and Service. Reported metrics are based on customer ratings using a 5-point rating scale, and are summarized using a Net Promoter calculation.

2. A measure based on customers disposing of one Ford product and buying a new Ford product.

› [For trends and commentary, see Products and Customers data in our global report](#)

We also received the following honors and accolades in Germany:

- Auto, Motor and Sport magazine's 100,000 km reliability tests for the Focus (Best in Class 2015)
- Auto Bild's 100,000 km reliability test for the Focus (Second Best in Class 2015)

Auto Bild's Allrad 100,000 km reliability test for the Ranger (4.5 out of 5 points) 2015 DEKRA safety and roadworthiness test, the C-MAX won the Van category (0–50,000 km), and the Fiesta (0–50,000 km) and Focus (100,000–150,000 km) ranked second and third in their respective segments.

Europe: Better World

Throughout Europe, Ford makes a positive impact through Better World initiatives. These include our community involvement, volunteering and Ford Driving Skills for Life programs.

In 2015, we invested

€2.6 million

to reach 5,000 more young drivers across Europe, offering DSFL for the first time in Denmark, the Netherlands and Turkey.

Ford Driving Skills for Life (DSFL)

Since its European introduction in 2013, more than 10,000 18 to 24-year-olds in 11 European countries have completed Ford Driving Skills for Life, our award-winning driver safety program.

In Italy, the program came to Naples and Padua for the first time. More than 400 young people took part in four-hour sessions to become more aware of driving risks, avoid distractions and respond to emergencies. DSFL in Italy has attracted more than 1,500 participants aged 18–25 since 2013. There was also a special module on the danger of using smartphones behind the wheel, particularly for accessing social media and taking selfies – dangerous but widespread habits among young people.

Meanwhile, in the U.K., the 2015 course returned to London ahead of National Road Safety Week. Our U.K. team joined with the Royal Society for the Prevention of Accidents (RoSPA), Brake and AA Drive Tech to give young drivers free hands-on experience in a safe and fun environment. A special “drink-drive” suit also demonstrated alcohol-related risks, and in a slow-speed, closed environment the participants also directly experienced the dangers of using a cell phone.

Against Smartphones Behind the Wheel

Ford's “Don't Emoji and Drive” campaign in Italy is designed to dissuade people from using smartphones behind the wheel. Harnessing social media, creative graphics and engaging communications, it highlights the fact that sending even a single emoji while driving can be extremely dangerous.

> [Driver Safety](#)

Supporting Communities and People in Need

More than

600 employee

volunteers in Germany provided

7,000 hours

of hands-on help to refugees in the second half of 2015.

Europe is coping with its biggest refugee challenge in 50 years and we are responding with humanitarian and financial assistance to help provide services for the thousands of displaced families arriving in the region.

Shortly after relief organization Johanniter built a large refugee camp near our factory in Cologne, Germany, Ford formed a large employee project group to coordinate support.

As well as providing financial support through the Ford Fund, company and employees at the Cologne plant also donated, collected and distributed 65 metric tons of clothes, shoes, bedding, toys and other household items. Around 150 Ford employees volunteered 1,200 hours to this initiative alone.

Ford collaborates closely with organizations supporting refugees, including Johanniter Refugee Relief, the German Red Cross, Caritas and the Community Foundation of Cologne, but there were many individual efforts too. Four Ford employees with soccer coach training gave their time to a soccer camp for 60 teenage refugees, while other employees helped refurbish accommodation or offered organized excursions for children and families to facilitate better integration into German society.

Supporting Nepalese Earthquake Victims

Donations from Ford employees in Spain have been given to UNICEF to help provide food, shelter and support for some of the millions of people left homeless in Nepal. Money was collected by workers donating the final cents of their monthly salaries through a program called Céntimo Solidario. Since the program was introduced in 2007, our Spanish employees have contributed more than €235,000 to worthy causes, with monthly contributions consistently reaching €3,000.

A Record Year for Volunteering in Germany



With 170 projects, 1,700 employees volunteering approximately 23,000 hours and a 70 percent increase in participation, 2015 was a record year for volunteering in Germany.

As well as providing assistance to refugees, employees actively supported mentoring and education initiatives, worked in daycare centers or shelters, took elderly people on excursions, and joined environmental and inclusion projects in the community.

Visually impaired people were enabled to row on the Fühlinger lake, and a triathlon for children with disabilities was supported, while our annual ecological commitment to the outdoor classroom of Cologne's Freiluga continued, with around 1,000 hours volunteered.

In addition to employee volunteering, Ford's commitment is also financial. The Ford Fund, our charitable foundation, supported nonprofit projects in Germany with more than \$190,000. Around a quarter went to refugee aid, and the balance was distributed to community and education projects.

Middle East & Africa

This section summarizes performance in our Middle East & Africa (MEA) operations. For details on our companywide approach, including our Blueprint for Sustainability, please visit the global pages of our Sustainability Report 2015/16.

"One of our priorities is to contribute to communities where we operate, and expanding and improving mobility in Africa represent an incredible opportunity to help transform a continent."

"Our goal is not simply to build and sell more cars and trucks in Africa, but to be part of the mobility solution in these emerging markets. When families transition from two wheels to four, it changes their lives."

Jim Benintende
President, Ford Middle East & Africa

AT A GLANCE

4

primary markets: Middle East,
North Africa, Sub-Saharan
Africa and Southern Africa

3,000

employees

2

manufacturing plants

PERFORMANCE SUMMARY Pre-Tax Profit/(Loss), Middle East & Africa Business Unit

2015:

\$31 million

2014:

(\$20 million)

- We formed our MEA business unit in 2014, with market share across the 67 countries in the region ranging from 1 percent to 20 percent.
- Our pre-tax results and operating margin both improved from 2014.
- At 4.5 percent, our overall market share declined one-tenth of a percentage point due to industry growth in the markets in which we do not participate. Our market share of the markets where we do participate increased

> For further financial analysis and outlook, please see the [2015 Annual Report \(Form 10-K\)](#)

Middle East & Africa: Strong Business

The MEA is a growing automotive market that is expected to increase by 40 percent, to 5.5 million vehicles, by 2020, and we are putting the infrastructure and people in place to play our part in its transformation. We are at the early stages of our mobility journey in this rapidly changing region, but new mobility solutions and an expanding manufacturing base will help us strengthen our position in automotive and mobility.

Go Further Africa: "Innovation and Mobility"

Showcased at the Go Further South Africa 2015 event in Johannesburg in August 2015, the Ford Project Better World Social Innovation Action Partnership (SIAP) program uses Ford vehicles to address a range of mobility and community challenges in Africa, such as providing goods and services, and enabling greater access to health care and clean water.

As part of the Ford Smart Mobility plan, the SIAP supports public-private partnerships, enabling multiple organizations to assist rural communities and remote areas without needing to own assets or invest in costly infrastructure.

The Ford vehicles are equipped with an OpenXC plug-in device, enabling analytic insights from the vehicles to inform mobility solutions unique to Africa (see Data-Driven Health Care in West Africa, below). For example, working with nonprofit partners, such as World Vision, we are improving accessibility to vaccinations and critical health care. Other groups, including nongovernmental organizations, private corporations and other charity organizations in Africa, are partnering with Ford on this initiative, helping to increase access to purified water, energy supplies and education.

"Project Better World is a good example of a sustainable mobility solution, where we develop a new transportation model to bring services and programs to those in need and contribute to a better world. With this program, we're using innovative partnerships to bring critical services to communities in South Africa, including access to health care, purified water and education."

Kim Pittel
Vice President Sustainability, Environment and Safety Engineering, Ford

Reflecting the central theme for the Go Further Africa event, "Innovation and Mobility," one of our other innovations on show was the MoDe: Pro eBike, a customizable electric bike. Making its debut in Africa, the eBike is designed to allow small businesses and courier companies to deliver goods without negatively impacting on traffic or emissions.

As part of Ford Smart Mobility, eBikes and mobile app technology are being tested to see how they can work seamlessly with cars and public transport to improve daily commutes.

> [Operation Better World](#)

Data-Driven Health Care in West Africa

Ford is expanding its use of sensor technology, helping researchers and programmers better understand how cars, bikes and other modes of transportation can create new mobility solutions and make people's lives better.

This ongoing work is helping to improve health care in rural West Africa, where poor or non-existent communications and infrastructure limit the provision of adequate health care in areas without reliable transportation. Working with Riders for Health, which supplies health care support to remote communities in eight countries in Africa, the Data Driven Healthcare project in the Gambia uses Ford Ranger pickup trucks to mobilize rural outreach health care. We are now expanding the project to include data collection using 50 motorcycles.

"Our goal is to understand what mobility means to people who don't have access to their own vehicles. Ford's commitment to smart mobility innovation is driving real, measurable change."

Arthur Zysk

Research Analyst, Ford

Ford donated

\$75,000

to Riders for Health for essential vehicle support, training and maintenance services to ensure that health care services are delivered more efficiently to an increased number of people across the Gambia.

All the vehicles are equipped with Ford's OpenXC technology, which provides real-time access to vehicle data, such as sensors, GPS receivers and speed. This information gives us invaluable insights into how our vehicles are driven in such environments. The OpenXC technology also helps the nonprofit organization to map undefined areas and routes, produce a mobility snapshot of vehicle usage to help service efficiency, and improve its maintenance and logistics systems.

› [VIDEO: Ford Smart Mobility – Data-Driven Health Care](#)

Improving Efficiency in South Africa

We have introduced a wide range of energy-efficient technologies at our Silverton Assembly Plant in Pretoria, helping to reduce its energy consumption and achieve tangible cost savings.

In 2015, the plant, which produces the Ford Ranger for South Africa and more than 100 export markets, replaced five old air compressors with two new high-capacity compressors, significantly improving efficiency. A similar approach in the paint shop led to a 38 percent energy saving.

As part of a broader energy monitoring program, 60 meters have been located throughout the facility to accurately measure the use of electricity, water, gas, steam and compressed air. Other efficiency measures implemented at Silverton include:

- Improvements to the plant's lighting
- The installation of polycarbonate roof sheeting in the assembly plant to allow more daylight, reducing the need for artificial lighting
- Retrofitting heat pumps in the restroom facilities, halving energy consumption

Expanding Operations in Africa

As part of our regional expansion, together with our partners, we have opened an assembly facility in Nigeria – the first African country outside South Africa where Ford vehicles are produced. In partnership with Ford dealer group Coscharis Motors Limited, assembly of the Ford Ranger pickup truck in Ikeja, Lagos State, started in late 2015.

Assembling trucks in Africa's largest economy is an important milestone in our regional growth plan. The new plant will create around 180 jobs, and has the capacity to assemble up to 5,000 units annually, all destined for sale within Nigeria.

Experienced employees will go to Nigeria to assist with implementing the Global Ford Production System, helping to ensure the highest standards of safety, quality and delivery.

"Nigeria is a priority market for us in Sub-Saharan Africa. We are committed to supporting Nigeria's developing automotive industry and economy, as well as looking forward to being active in the community. New assembly operations, even on a smaller scale like this one, have very positive ripple effects in the local economy and workforce."

Jeff Nemeth

President and CEO, Ford in Sub-Saharan Africa

As well as expanding our manufacturing operations into Nigeria, we have also opened a new regional sales office in Casablanca, Morocco, and a purchasing office in Tangier, Morocco. These sites will help us to serve our North African market, where seven new vehicles were introduced in 2015. The number of parts purchased from local suppliers during the year more than doubled, largely to supply our expanded assembly plant across the Mediterranean Sea in Valencia, Spain. This has indirectly helped to generate thousands of jobs across the region.

Middle East & Africa: Great Products

Launching new vehicles with advanced fuel efficiency and safety features is key to ensuring our long-term business success. They also ensure we continue to meet evolving fuel economy standards, such as the light vehicle standards that became effective in Saudi Arabia in January 2016. To meet new customer demand, we will introduce 30 new vehicles to the region by 2020.

Vehicle Quality and Customer Satisfaction

The MEA is one of the world's most exciting and fastest-growing vehicle markets but it also has some of the highest rates of road traffic deaths per capita.

Ford has introduced a number of innovative systems and technologies in its vehicles designed to keep drivers and passengers safer on the region's roads. These include inflatable rear seat belts, Ford SYNC connectivity and infotainment system, and MyKey, which helps parents encourage teens to drive more responsibly by managing features like maximum speed and radio volume.

A number of new technologies designed to assist the driver in maintaining control of the vehicle and avoiding accidents have also been introduced to our vehicles, from roll stability control and lane departure warning to blind spot information.

The following is a summary of vehicle quality and customer satisfaction in our MEA operations in 2015:

- Customer satisfaction increased to 67 percent (2014: 62 percent), a 5 percentage point improvement
- Full-year "Things Gone Wrong" (TGW) was 775 per 1,000 vehicles (2014: 1,046), a 26 percent improvement
- Sales satisfaction with dealer or retailer reduced by 5.7 points from 2014 to 2015¹
- Service satisfaction with dealer or retailer reduced by 3.7 points from 2014 to 2015¹

› [For trends and commentary, see Products and Customers data in our global report.](#)

Greener, Smarter Vehicles

We have been working for many years to reduce the environmental impacts of our vehicles. In the Middle East in particular, low fuel prices have meant that fuel efficiency has typically not been a high priority for many customers. Nonetheless, Ford has progressively introduced a broad range of EcoBoost® engines.

With the Kingdom of Saudi Arabia introducing average fuel economy regulations from January 2016, fuel economy labeling being introduced in 2016 across the Gulf Cooperation Council (GCC), and the reduction and removal of fuel subsidies in late 2015 and early 2016, there is some increased interest in fuel economy. Ford's EcoBoost engines are well placed to take advantage of any shift in consumer preference for fuel economy.

Across MEA, poor fuel quality can be a barrier to the introduction of the latest engine and after-treatment technology. While some improvements in fuel quality were seen in 2015, most MEA markets lag behind their international neighbors in other regions. Ford works with agencies such as the United Nations Environment Programme to promote a shift to cleaner fuels.

For further details on regional legislation related to vehicle fuel economy and greenhouse gas emissions, please see [page 10 of the 2015 Annual Report \(Form 10-K\)](#).

1. 2015 data for sales and service satisfaction are not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation changed in January 2015 and uses a consistent methodology across all global markets. The updated performance metric is based on a 6-question index comprised of key performance indicators for each Sales and Service. Reported metrics are based on customer ratings using a 5-point rating scale, and are summarized using a Net Promoter calculation.

Middle East & Africa: Better World

One of Ford's goals is to build a better world, and reaching out and providing assistance to our communities has long been an essential part of what we do. Across the region, the number of new drivers is increasing rapidly as more people are able to afford vehicles. We are therefore continuing to expand the reach of our award-winning Ford Driving Skills for Life (DSFL) training program, aimed at novice drivers of all ages, into new MEA markets.

Helping Our Communities in the Middle East

The annual Ford Motor Company Conservation and Environmental Grants program supports projects that study and conserve the region's rich biodiversity, recycling and green building initiatives, and works to raise conservation awareness.

To date, we have offered almost

\$1.4 million

in grants to 176 separate projects across the region.

In 2015, we celebrated the 15th anniversary of the Grants program by expanding to North Africa, offering a total funding of \$100,000. The Grants program added Egypt, Tunisia, Morocco and Algeria to the list of countries where it offers funding, joining the UAE, Saudi Arabia, Qatar, Kuwait, Bahrain, Oman, Jordan, Lebanon, Iraq and Yemen.

As one of the largest corporate initiatives of its kind in the region, the Grants program has received support from various governmental and nongovernmental environmental bodies, including the World Wide Fund for Nature, the Emirates Wildlife Society, the Arab Forum for Environment & Development (AFED) and UNESCO Doha.

"As today's generation gives greater attention to environmental causes, Ford is thrilled to be part of a process that can help people make significant differences in their communities."

Kalyana Sivagnanam

Vice President, Marketing, Sales and Services, Ford Middle East and North Africa

Encouraging Innovative Social Projects in Africa

Working in partnership with Enactus, a global nonprofit organization, the Ford College Community Challenge (Ford C3) offers universities in Africa the opportunity to present innovative programs that empower students to improve their communities with self-sustaining projects.

The Ford C3 initiative has been implemented in Ghana and Kenya, with an expansion into Morocco and South Africa under review. Through the initiative, which provides funding from Ford for three years, student-led proposals that address the critical needs of local communities are selected for funding and support:

- In **Kenya**, a project at Maseno University's school of business helps women to boost their incomes through improved poultry farming methods and awareness of government regulations, while Moi University's "Ease Up" program also received funding to help improve sanitation in the surrounding community.
- In **Ghana**, a team from the University of Energy and Natural Resources won funding to create a device for generating and storing electricity, producing a reliable, affordable and sustainable source of energy. The team will also train disadvantaged people in the design and assembly of the generator to help them gain paid employment.

Breast Cancer Awareness in the Middle East

Ford has supported the fight against breast cancer for 21 years. Our support seeks to drive awareness and proactive self-care, and to raise funds to support research and education. Through Warriors in Pink, a Ford-led movement that includes merchandise, we have been able to invest \$128 million into the cause.

Warriors in Pink has been active in the Middle East since 2012, sharing the inspirational stories of breast cancer survivors. In 2015, these activities extended to photo shoots of survivors through our Models of Courage campaign. In partnership with the Al Jalila Foundation, four breast cancer survivors modeled Warriors in Pink apparel for a photoshoot at the Four Seasons Resort in Dubai, with the hope of raising awareness throughout the region.

Early detection of breast cancer can lead to far greater chances of survival. Our "Do it for me Mom" initiative, launched in November 2015 in Qatar, educates people to recognize the symptoms of breast cancer, so that patients get diagnosed and treated more quickly. As part of the launch, a health professional visited the English Modern School in Doha, Qatar, during Breast Cancer Awareness month, to explain to students how they could prevent and detect breast cancer, and encouraged them to share the information with their mothers.

"We are pleased and proud of the success of this pilot campaign, and hope to increase the level of awareness among the younger generation on the importance of early detection, for all the mothers in the countries in our region."

Sue Nigoghossian

General Manager of Communications, Ford Middle East & Africa

Promoting Safer Driving in Oman

Our Driving Skills for Life (DSFL) program is a free educational resource designed to help new drivers learn safe driving practices while behind the wheel. Having been launched in the UAE and Saudi Arabia, we continued our Middle Eastern expansion by introducing the award-winning initiative in Oman in October 2015.

The Sultanate has the highest death rate from road accidents in the Gulf Cooperation Council (GCC), and the third highest in the Eastern Mediterranean region, according to the World Health Organization.

Delivered in cooperation with Arabian Car Marketing, our in-country importer-dealer, and Sultan Qaboos University in Muscat, the free educational program helps new drivers, especially students, learn safe driving practices behind the wheel, such as safe vehicle handling, avoiding distractions, and speed management. The October 2015 event saw 325 students receive training.

"Safety is a core component of what we do, but we also recognize that safety begins with the driver. Driving Skills for Life can have a profound impact on young drivers, and anything that we can do, to make new drivers safer behind the wheel benefits us all."

Jim Benintende
President, Ford Middle East & Africa

Global Caring Month in Sub-Saharan Africa

For the last 10 years, Ford employees and community members have contributed and volunteered to improve the lives of the less fortunate in our annual Global Week of Caring. Held in September, and aligned to Ford's "Better World" vision, each employee gives their time and effort in a week-long display of caring.

To mark its 10th anniversary, we expanded the program significantly to create our very first Global Caring Month. In Sub-Saharan Africa, more than 940 employees spent more than 6,700 hours on over 30 volunteer projects, with a particular focus on education, health, environmental sustainability and humanitarian support:

- **South Africa:** We conducted a variety of projects, including the renovation of six shipping containers into classrooms, offices and shelters in Port Elizabeth, and upgraded the facilities at a special needs school in Pretoria
- **Angola:** We worked with our local dealer to rehabilitate a community school and health center in Luanda
- **Zimbabwe:** We focused on environmental projects by planting trees in Harare, Bulawayo, Gweru and Mutare
- **Kenya:** We partnered with the Kenya Cancer Association (KENCASA) to raise cancer awareness, spending time with the patients and the KENCASA team for a week, and participating in a fun walk for patients and cancer survivors

In addition, our employees spent time in educational initiatives, helping the homeless and environmental projects, among others.

"Each of the projects we run touches people's lives and brings real comfort and hope. They also make their towns, villages and cities better places to live."

Jeff Nemeth
President and CEO, Ford in Sub-Saharan Africa

Supporting Entrepreneurs in Morocco

The Ford Fund works with partners to find innovative solutions to community concerns using a coordinated, strategic approach. In this spirit, we launched the Henry Ford Entrepreneurship Academy (HFEA) in Rabat, Morocco, in partnership with the Virginia Commonwealth University (VCU) in May 2015.

The Ford Fund partnered with the VCU School of Business Entrepreneurship Program to research, design and build the Academy. Hosted by the International Institute for Higher Education in Morocco (IIHEM), the HFEA runs a series of workshops for local entrepreneurs, supported by the tools, skills and processes they need to identify and address community issues, and positively impact the local economic ecosystem.

The workshops are open to people from a variety of backgrounds, who have either recently started a business or plan to in the short term. The sessions teach attendees how to use the correct tools and foster the necessary entrepreneurial mindset, as well as assessing the feasibility of their plans and helping entrepreneurs to launch and grow their business ventures.

The workshops will be adapted to reflect evolving knowledge, culture and behavior, and to focus on the skills that are most in need. The HFEA plans to expand to Saudi Arabia in 2016.

"The Henry Ford Entrepreneurship Academy is a key player in the Moroccan entrepreneurship ecosystem that supports the progression from idea to business to growth."

Dr. Safwan Benjelloun
Provost, International Institute for Higher Education

The Better World Learning Community in Africa

The Learning Community is a global collaborative initiative developed to support the launch of the Project Better World. In collaboration with partners including the George Washington University and the Institute for Corporate Responsibility, its mission is to collectively create, implement and scale up integrated projects for delivering services to remote communities in the developing world. This will help to address some of the current inefficiencies in local community services and logistics.

The pilot programs feature Ford vehicles customized to deliver enhanced access to health care, clean water, energy, education and more. Initially, the vehicles will be integrated into existing partner programs to enhance their social impact, with a pilot project deploying Ford vehicles first in South Africa, then in Nigeria.

Leveraging the resources and best practices from governmental and nongovernmental organizations, private investors, social entrepreneurs and other businesses, members of the Learning Community will co-create projects through a partnership approach, sharing their experiences and expertise across sectors and disciplines to foster integrated solutions.

> Operation Better World

Asia Pacific

This section summarizes performance in our Asia Pacific operations. For details on our companywide approach including our Blueprint for Sustainability, please visit the global pages of our Sustainability Report 2015/16.

"The Asia Pacific region will continue to be a center of growth for Ford, and sustainability is core to everything we do. Whether we are building a strong business, delivering great products, innovating new approaches to mobility or contributing to a better world, our priorities of operating a business that delivers sustainability and growth will always be front and center."

Dave Schoch
President, Asia Pacific

AT A GLANCE

~25,000
employees

1,900+
engineers, scientists and
researchers are employed
at Ford's new R&D center in
Nanjing, China

~\$1.8 billion

investment in innovation
in 2015

12
manufacturing plants across
the region

PERFORMANCE SUMMARY
Pre-Tax Profit, Asia Pacific Business Unit

2015:

\$765 million

2014:

\$593 million

- In Asia Pacific we had our best year yet as we continue to execute our growth strategy in the region.
- Volume, revenue, operating margin and pre-tax profit all grew to record levels.
- Our market share in the region stands at stands at 3.6 percent.¹

› For further financial analysis and outlook, please see the [2015 Annual Report \(Form 10-K\)](#)

1. Includes Ford brand and JMC (Jiangling Motors Company, Ltd.) brand vehicles produced and sold by our unconsolidated affiliates.

Collaborating on Mobility Research in China

With Chongqing University, we're exploring more efficient models for multimodal transportation. Across **Chongqing**, we're using 8,900 buses equipped with GPS monitors on 520 routes to look at ways to reduce travel time and energy consumption, and provide individuals with more accurate real-time data to improve bus scheduling.

In **Beijing**, we're working with researchers from the University of Michigan to explore ways to optimize multimodal transit. The project is surveying more than 2,000 people, covering the area within all six of the city's ring roads and examining eight different modes of transportation, including driving, biking, walking and the use of public transport.

Innovation in Our Cities: Changing the Way the World Moves

Everyday issues like traffic, pollution and parking are of concern to city residents and authorities across the region. As part of our Ford Smart Mobility plan, we're exploring new ways to minimize commuting stress, ease congestion and reduce environmental impact.

India: Working Toward Sustainable Mobility

Fast-growing Indore, with a population of 2.4 million, is one of six cities participating in the World Business Council for Sustainable Development's (WBCSD) Sustainable Mobility Project (SMP) 2.0. This brings together a global group of 15 companies to accelerate progress toward sustainable mobility. Ford is a leading contributor and helped develop SMP 1.0, the first iteration of the project.

The project began in July 2014 and concluded with a closing meeting and a final report in January 2016. A number of prioritized solutions were suggested, which focus on extending access to safe, reliable and comfortable mobility for all.

These include no traffic zones, the formulation of a comprehensive parking plan, a dedicated hawker zone, introducing more city buses, constructing pedestrian sidewalks, and providing dedicated bicycle lanes.

› [Read more about the project in the WBCSD Sustainable Urban Mobility report for Indore](#)

Case Study:

CHINA: DIDA CITYRIDE

Ford drivers using Dida Pinche completed
170,000 rides
totaling more than
2.56 million kilometers
over the month-long project.

Dida Pinche is China's largest carpooling app. For the CityRide project, drivers of Ford vehicles in Beijing and Shanghai registered as Dida Pinche drivers, offering to carpool with passengers on their morning and evening commutes.

By working with Dida on the CityRide project, we've been able to develop clear insights into the preferences of carpooling consumers in Chinese cities, and introduce more people to the Ford brand – while reducing fuel consumption and even shaving commute times.

› [Read more about Dida CityRide on our media site](#)

Asia Pacific: Strong Business

We have driven our Asia Pacific growth plan this year with further investment in innovation, regional manufacturing and sustainable mobility solutions in China, focused on meeting the needs of customers across the region.

Investing in Accessible Innovation

China will be a key market that drives our Ford Smart Mobility innovations.

Nanjing Research and Engineering Center

Ford is investing approximately

\$1.8 billion

in research and development in China by 2020.

Our Nanjing Research and Engineering Center (REC) – one of Ford's eight global product development centers – will play an important part in this, including developing electrified and hybrid powertrains of the future.

Alongside cutting-edge laboratories to help us develop new powertrains, test electronic systems, analyze the performance of interior materials and improve vehicle manufacturing quality, we're building a comprehensive vehicle-testing center at our Nanjing REC. This will have a full test track equipped with a constant-speed oval, special surfaces for different road types, steep gradients and a precision steering track.

› [Read more about investment in China on our media site](#)

Innovation for Families and Kids: Extracting Value from Big Data

Two Ford teams were finalists in the Shanghai Open Data Application contest.

Shanghai Open Data Application (SODA) is a contest sponsored by the municipal authorities to improve mobility for the city's 24 million residents. More than 800 teams submitted ideas, including 29 teams comprised of Ford employees.

Two teams of Ford engineers were named finalists. One of the ideas was a model for an on-demand school bus and the other used advanced algorithms for easier, more efficient metro trips.

On-Demand School Buses

Just one 19-seat school bus equals 16 fewer cars on the road.

More than half of parents in Shanghai drive their children to school while only around nine percent of the city's students take a school bus to class.

The Ford team developed an app for an on-demand school bus that lets parents view routes for available buses, book seats for their children, watch in real time as the bus travels along the route, review information on the bus driver and bus monitor – and even access the cameras on the school bus to check on their child.

Mapping Mass Transit

The Ford team used data sets made available by the Shanghai authorities to clock inflow and outflow traffic of all the city's metro stations, creating detailed maps that show passenger traffic in five-minute increments.

The data was visualized in ways that could help people decide the best time to get on the metro to make their journey easier. The collected data can also help the government pinpoint the most high-traffic stations and prioritize the maintenance of those facilities.

"Innovate Mobility" Challenge for Developers

In 2015, Ford's Innovate Mobility Challenge series invited developer communities across the globe to apply advanced technology, innovative ideas and local context to specific mobility issues.

Taiwan: Fresh Thinking on Congestion

In **Taipei, Taiwan**, the challenge we set developers focused on traffic congestion around the Hsuehshan Tunnel. This is the main artery between the city and the popular vacation destination of Yilan, but bottlenecks on the freeway can significantly increase the journey time.

E-PASS was the Grand Prize winner of our Innovate Mobility Challenge in Taipei. The model uses machine learning software to give drivers more accurate predictive traffic information before they get on the freeway or plan their trip, helping them make decisions based on the times least likely to be affected by traffic congestion.

Australia: Enhancing Travel in Remote Areas

In **Australia**, the winning idea in our Accessory Challenge focused on use of the Ford SYNC connectivity system to deliver additional information to drivers in the Outback, including the location of the nearest fuel station and the range of remaining fuel. The ultimate goal is to reduce the risk of getting stranded or lost when driving off the beaten path, and to help prepare drivers for the inherent risks involved.

Innovation in Manufacturing

Building World-Class Vehicles

China is now home to 10 of our most advanced manufacturing plants, as well as the Nanjing Research and Engineering Center – one of eight Ford product development centers.

New facilities inaugurated in China in 2015 include Ford's assembly plant in Hangzhou, allowing us to better serve our Chinese customers in the fast-growing SUV segment.

With the opening of Ford's new Sanand assembly plant in **India** early in 2015, Ford has further strengthened India as a center of excellence for small cars for both domestic consumption and export. The Sanand plant has the capacity to produce 240,000 vehicles annually.

Energy Efficiency and GHG Emissions Reduction

OUR PERFORMANCE

28% less

energy use per vehicle produced in China.

› [DATA: Operational Energy Use and CO₂ Emissions](#)

Ford manufacturing facilities in Asia continue to reduce CO₂ emissions per vehicle produced. In China, one Changan Ford plant has reduced emissions by more than 52 percent since 2005/06, while another has achieved a reduction of more than 40 percent compared with 2014. For every car produced in China in 2015, we used 28 percent less energy compared with 2011.

We are investing \$4.3 million investment in energy-efficient lighting in China. Together, Changan Ford and Jiangling Motor Corporation will reduce facility energy use by 15.9 million kilowatt-hours annually. Compared with traditional lighting, this represents a 50-70 percent reduction in energy demand.

Large-scale lighting installation has been carried out in Thailand; Taiwan and Vietnam lighting projects have been completed; and Ford's team in India has installed the first round of LED lights.

Water Stewardship

OUR PERFORMANCE

34% less

water use per vehicle produced in China.

› [DATA: Water Use Per Vehicle Produced](#)

Thanks in part to advanced treatment and reuse technology, Ford's multiple assembly plants in Chongqing, China, reused around 270,000 cubic meters of water in 2015 while our plant in Hangzhou reused over 40,000 cubic meters.

Compared with 2011, Ford has reduced water use per vehicle produced in China by more than 34 percent.

Reducing Waste to Landfills

For every car produced in China in 2015, the company sent 95 percent less waste to landfills compared to 2011.

Asia Pacific: Great Products

The strength of our new products has been a key factor in driving record results in our Asia Pacific business. These include the all-new three-row Ford Edge as well as the Figo, Everest, Lincoln MKX, Taurus and new Ranger.

Innovation in Our Cars and Technologies

Record sales in China in 2015: more than 1.1 million vehicles sold.

By making innovative vehicles, technologies and services available to all, we want to change the way the world moves and develop the sustainable automotive and mobility solutions of the future.

Fuel Economy and Electrification Strategy

More than 80 percent of Ford passenger cars in China are available with EcoBoost engines, up from 20 percent five years ago.

Today, our lineup in Asia Pacific provides customers with the power of choice by offering a range of advanced powertrains designed around their needs for fuel economy and performance. For detail on regional/national requirements related to vehicle fuel economy and greenhouse gas emissions, please see the [2015 Annual Report \(Form 10-K\), page 10](#).

New Energy Vehicles (NEVs)

As part of our global electrification strategy, Ford in China will offer a range of NEVs by 2020, starting in 2016 with two new NEVs: the Ford C-MAX Energi plug-in hybrid electric vehicle and the Ford Mondeo hybrid electric vehicle. These will complement Ford's growing range of vehicles powered by EcoBoost petrol engines.

By 2020, the average Ford customer is expected to reduce annual fuel consumption by more than 200 liters each year compared with 2015.¹ That adds up to a saving of about RMB 1,400 every year for each customer, and a reduction of more than 500 metric tons of carbon dioxide emissions annually across China.

1. Based on expected fleet average fuel consumption 2015 and 2020 – as we continue to introduce advanced powertrain and electrification technologies that will result in lower fuel consumption for our customers. Depending on actual product choices and driving behaviors, a customer's actual savings will be different than the average numbers identified. (Note: Key assumptions include an average annual distance traveled of 12,000 kilometers, 2,348 grams of CO₂ per liter of gasoline used, and a fuel price of 6.40 RMB per liter.)

Connecting Consumers with their Worlds

China's consumers are among the most connected in the world. We continue to develop SYNC, our in-car system offering hands-free control of phones, entertainment, climate control and navigation, to provide drivers with smarter, safer ways to stay connected.

In China, SYNC will be the first in-car connectivity solution to feature support for Tencent's new in-vehicle app, Chelian. Chelian enables drivers to access popular Tencent services such as the QQ messaging app, as well as music, real-time traffic conditions and streaming radio. At the end of 2015, there were 1 million SYNC-equipped cars on the road in China. We will continue to develop more connected services, including SYNC 3 in China in 2016.

Innovation in Customer Experience

At Ford, we want to provide great customer experience as well as great products – making life easier for drivers to own and run their vehicle.

Quick Lane: Easier Vehicle Servicing

Recognizing the challenge of finding conveniently located dealerships and service centers in large cities, Ford is launching a new, convenient and flexible way to provide quick vehicle service to its customers in China through its global Quick Lane service model.

Ford's commercial vehicle investment partner, Jiangling Motor Corporation (JMC), opened its first Quick Lane outlet in Changsha in 2015. JMC will open 20 Quick Lane outlets across China by the end of 2016. Ford's joint venture partner Changan Ford is currently working on adapting the service for its customers.

Tmall: Buying a Vehicle Online

Between April and September 2015, Ford's Tmall store attracted **4.8 million hits**.

Our store presence on Tmall.com, a leading online business-to-consumer sales platform, was launched in 2015. Customers can learn more about Ford and order vehicles with a click, making it easier for customers to experience the Ford brand and purchase a Ford vehicle.

Vehicle Quality and Customer Satisfaction

The following are key measures for our Asia Pacific region in 2015:

Our customer satisfaction score was

71 percent

(2014: 69 percent) a 2 percentage point improvement

Sales satisfaction with dealer or retailer (Net Promoter Score) was

901

Full-year "Things Gone Wrong" per 1,000 vehicles was

846

(2014: 917) an 8 percent improvement

Service satisfaction with dealer or retailer (Net Promoter Score) was

851

1. 2015 data for sales and service satisfaction are not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation changed in January 2015 and uses a consistent methodology across all global markets. The updated performance metric is based on a 6-question index comprised of key performance indicators for each Sales and Service. Reported metrics are based on customer ratings using a 5-point rating scale, and are summarized using a Net Promoter calculation.

› For trends and commentary, see [Products and Customers data in our global report](#)

Asia Pacific: Better World

As we grow our business in Asia Pacific, we are also continuing to expand our community investment and volunteering efforts. Our Operation Better World provides a coordinated, strategic approach to how Ford engages with communities across the region and beyond.

Growing Our Community Programs

Over the next five years

100,000 volunteering hours

in our local communities.

In 2015, we announced our plan to invest an additional \$8 million (RMB 50 million) over the next five years to grow our community programs in China.

In addition to financial investments, Ford will contribute about 100,000 company-paid hours over the next five years in employee volunteering activities.

MyEnergi Lifestyle Pilot

The MyEnergi model shows how families' energy costs and carbon footprint can be reduced by combining renewable energy, efficient home appliances and a plug-in vehicle.

We are working with leaders in the home appliance and energy sectors on a pilot program in Beijing and Shanghai to explore ways to help families reduce energy bills and environmental impact, by combining renewable energy sources, appliances and a plug-in vehicle.

The MyEnergi Lifestyle model for China, created by Ford and researchers from The Georgia Institute of Technology, predicts approximate cumulative savings of 63 percent in energy costs – a 40 percent and 69 percent drop in electric and gasoline bills, respectively – and a 45 percent decrease in CO₂ output. The MyEnergi model also predicts a significant impact on reducing emissions that lead to pollution.

Better World Projects in Asia Pacific

We have five-year Better World plans in each market of our Asia Pacific region, supported by the Ford Fund. These focus on four key areas: education, auto safety, community needs and sustainability (particularly water stewardship).

Our plans include environmental and conservation projects, as well as education, health, civil equality and infrastructure improvement. Our approach is not just to provide resources to those in need, but to help the company turn volunteerism into an integral part of the business.

Environmental Sustainability and Community Needs

In **China**, through the Ford Fund and the Ford Conservation and Environmental Grants Program, we will continue to grant more than \$300,000 a year to nongovernmental organizations (NGOs).

In **Thailand**, we are introducing a new “Water Go Green” project, which aims to help communities in rural areas to improve their water resources and water quality. Ford volunteers will install a solar powered water pump system and storage tanks, better preparing communities for the dry season.

Education and Scholarships

The company continues to be involved in science, technology, engineering and mathematics (STEM) education throughout the region.

In 2015, we hosted several robotics competitions in **Australia**, giving students a glimpse into relevant STEM and automotive work. In 2016, the company will invest \$150,000 to support FIRST Robotics competitions in Australia and across Asia Pacific, and \$55,000 to provide school team sponsorships and mentoring. We will also hold educational events and contribute an additional \$40,000 to fund renewable Blue Oval Scholarships to deserving students to enable them to pursue careers in STEM fields.

Ford Driving Skills for Life

In many Asian markets, the number of new drivers of all ages is increasing rapidly. Ford **Driving Skills for Life** (DSFL) in the region is aimed at novice drivers of all ages, and places equal emphasis on safe driving and eco-driving. Now in its eighth year, the program has reached more than 150,000 people with behind-the-wheel training and thousands more through online classes, school programs and safe driving campaigns.

Global Month of Caring

Our Global Month of Caring broke all records in our Asia Pacific region in 2015, with more than 6,800 employees across the region donating 42,313 hours toward various causes. More than 120 projects were completed by the end of the year, with others continuing beyond that.

A Sample of Volunteering Projects

Australia

Ford employees helped Northern Bay College in Australia to renovate and maintain its grounds, including landscaping, painting, cleaning and the construction of a fence.

“Working with the guys on something outside the office, doing some hands-on work and really helping out the community and making a difference has been really good.”

Alexander Abramzon

VFG leader, Steering and Chassis

China

Nearly 2,000 employees from the Nanjing Research and Engineering Center, along with family and friends, held a 20-kilometer walkathon, raising approximately \$64,000 (more than RMB 400,000) for orphan education and other causes.

“Joining the walkathon activity as a volunteer really made me feel proud to be a part of the Ford family. All the participants were full of enthusiasm and passion about delivering care and warmth to the orphans we sponsored.”

Kevin Liu

AT engineer, Ford Nanjing Research and Engineering Center

India

Complementing Ford India's Happy Schools Program, Ford employees in Chennai worked with 16 schools in surrounding areas of the Chennai facility, promoting personal hygiene with the help of painted murals.

Indonesia

Ford employees and business partners in Indonesia, together with Aksi Cepat Tanggap, helped to build a clean sanitation and water source, and renovated a rural elementary school.

"It was an awesome experience. Having to wake up early in the morning to reach the remote area, and the tiredness after working all day, was all worth it. It felt really good to help those school kids."

Flavianus Suwandy

Retail marketing manager

Japan

Ford employees in partnership with Make the Heaven took part in the Landslide Recovery Volunteer Project, removing sediment from a water drainage tunnel in northern Hiroshima, which was causing flooding in the area.

Korea

Ford, five dealer partners and the Make-A-Wish foundation collaborated to make 130 teddy bears as part of the Wish Bear Making Program in Korea. Each bear was handmade to give hope to local children battling sickness.

"It was not easy making a Wish Bear. I haven't sewn in years, but I feel so good that the Wish Bear I made will comfort a sick child who is battling an incurable disease."

Seo-Eun Kang

Administrative assistant

Malaysia

Employees from Ford and local partner Sime Darby Auto Connexion brightened the Women's Aid Organization children's play area with new toys, and purchased food and daily necessities for the women and their families.

Thailand

In partnership with Habitat for Humanity Thailand and the World Vision Foundation of Thailand, 382 Ford volunteers constructed and renovated the homes of underprivileged families and improved public spaces in communities surrounding Ford facilities.

Vietnam

Ford volunteers built homes and planted trees for poor local families in Vietnam, providing both decent shelter and a means for them to earn an income.

GLOBAL MOBILITY

Changing the way the world moves to make people's lives better.

"Transportation in the world today is on the cusp of a major revolution, and Ford plans to lead the way by changing the way the world moves through Ford Smart Mobility."

Jim Hackett
Chairman, Ford Smart Mobility LLC

Mobility Megatrends

Meeting the growing demand for transportation in a sustainable way is vital for human progress. Ford is already at the forefront of collective efforts to understand the challenges and develop solutions.

What are the Issues?

Five megatrends have guided our thinking on Ford Smart Mobility and shaped a number of projects and initiatives over the past three years in connectivity, mobility, autonomous vehicles, customer experience and data analytics.

1. Urbanization, Growing Populations in Urban Environments, and Congestion

OUR PERFORMANCE

By 2030 the number of megacities is set to rise from

28 to at least 41.

Source: United Nations Department of Economic and Social Affairs

The global population is growing and more and more people are moving from rural regions to towns and cities.

Increasing urbanization is contributing to a rise in the number of cities with populations of more than 10 million, known as megacities. Existing infrastructure simply cannot sustain the number of vehicles expected to be on the road in years to come and transportation systems will come under increasing pressure.

2. The Rapid Growth of the Global Middle Class

Many in the world's growing middle class will aspire to own a car, which brings its own set of challenges in terms of how people connect with one another, society's ability to develop and ways to safeguard the natural environment.

Clean, safe and affordable automotive transportation remains key to meeting mobility needs, and supporting human progress and economic development in communities across the world.

IN THIS SECTION

- [Mobility Megatrends](#)
- [Ford Smart Mobility](#)
- [Data](#)

3. Issues of Air Quality and Related Health Risks from Congestion

The World Health Organization is one of many noting that urban air pollution is a serious social and public health issue.

In many emerging economies, poor air quality remains a severe challenge that can only be addressed through a significant long-term societal effort. In more developed nations, substantial progress has been made in meeting air quality standards, in part through substantial reductions in vehicle emissions. In some regions, there is more to be done on a multi-stakeholder basis to achieve air quality standards.

4. Changing Consumer Attitudes and Priorities

The digital world and the sharing economy are shaping new behaviors, with marked differences between generations.

In the United States today, for instance, almost half of those surveyed say they like using their smartphones to plan their transportation. More than a third say they would be interested in the possibility of renting their car to strangers if they could. Ford must continue to provide what customers want and value, not only today but in the future.

5. Climate Change and Resource Constraints

As the world grows, so does the demand for energy, water and raw materials.

Sustainable automotive transportation of the future may depend on overcoming restrictions that do not exist today. This may require revolutionizing society's approach to mobility. Multimodal solutions and innovative ways to use, share and own cars are some of our key areas of focus.

How is Ford Responding?

Ford Smart Mobility is at the heart of our response. It's our long-term plan to use innovation and big data to take our company to the next level in connectivity, mobility, autonomous vehicles, and the customer experience.

Ford Smart Mobility

We're bringing new opportunities to life in the five key areas of Ford Smart Mobility, with research, experimentation, collaboration and innovation underpinning the delivery of our plan.

Changing the Way the World Moves to Make People's Lives Better

Connectivity

Connecting consumers with their world

Mobility

Developing more efficient and sustainable ways to move

Autonomous Vehicles

Helping people to drive when they want or when they can't

Customer Experience

Solving mobility challenges and delivering great experiences

Data Analytics

Unlocking the potential of data to anticipate and customize needs

How We're Delivering Ford Smart Mobility

IN OUR REGIONS

Read about mobility projects and pilots in our regions:

- › [NORTH AMERICA: Dynamic Shuttle](#)
- › [ASIA PACIFIC: India: Working Toward Sustainable Mobility](#)
- › [EUROPE: GoDrive Car Sharing in London](#)
- › [SOUTH AMERICA: Creative Mobility Solutions in Brazil](#)
- › [MIDDLE EAST & AFRICA: Data-Driven Health Care in West Africa](#)

Building and Investing in New Mobility Services

We have created Ford Smart Mobility LLC, a new subsidiary formed to design, build, grow and invest in emerging mobility services. Ford Smart Mobility LLC will build on the products, technologies and Ford Smart Mobility innovations and work already underway.

Working with our existing product development, research and advanced engineering, marketing and data analytics teams – which will remain unchanged – the subsidiary will develop commercially ready mobility services and invest in promising mobility-related ventures.

Consumer Empowerment and Engagement

Ford products and services are designed with one thing in mind – the customer experience.

We have put consumers at the center of our Ford Smart Mobility plan and are setting out to transform how we interact with consumers to deliver great experiences every time.

It starts with understanding what consumers want and value – recognizing that lifestyles and aspirations never stop evolving. The mobility challenges that exist in the world today are significant, but we're moving forward and learning all the time, building on research projects, pilots and experiments around the globe.

Case Study:

TIME TRUMPERS, EVERYDAY IMPROVERS AND EXPERIENCE SEEKERS

Developing commuter archetypes such as "Time Trumpers," "Everyday Improvers" and "Experience Seekers" is part of a mobility research program we're undertaking with global design company IDEO. As we explore multimodal solutions of the future, we use these archetypes to build our understanding of opportunities and challenges facing commuters. We gain a deeper insight into their experience, needs and preferences as they navigate large cities using different forms of transportation.

- › ["The Commute of the Future: Ford Is Working on It," New York Times, February 13, 2016](#)

Technology, Partnerships and Collaborations

Ford's collaboration with DJI, the world leader in professional drone systems, on drone-to-vehicle technology for use in emergency zones and other applications is an example of how we're working closely with tech companies on real-world challenges.

Our new subsidiary, Ford Smart Mobility LLC, will collaborate with start-ups and tech companies as well as designing and building mobility services on its own.

We're adopting a software mindset in our developer collaborations – contributing open source solutions such as SmartDeviceLink to help drive common industry standards.

We continue to increase our presence in Silicon Valley. Our Research and Innovation Center in Palo Alto is one of the largest automotive manufacturer research centers in the region, with a team of more than 100 researchers, engineers and scientists.

To expand our capability further, we have opened a new research lab in Dearborn, Michigan, which is working on integrating wearable devices such as smart watches with vehicles, to make driving an easier experience.

We have collaborations with 22 top universities around the world. To date, we have funded 66 university projects. In 2016, 22 new projects will be launched.

- › [VIDEO: Technology, Partnerships and Collaborations](#)

Case Study:

TECHSTARS MOBILITY ACCELERATOR PROGRAM

Working together, Techstars Mobility and Ford are supporting inventors with funding, mentoring and training to develop future mobility ideas and solutions. The 2015 class of "Techstars Mobility, Driven by Detroit" included 10 startups, which have raised more than \$3 million since completing the program.

Seven of the companies are establishing a presence in metro Detroit to advance their innovations, including Elegus Technologies, which is developing a battery technology that would increase the energy density and safety of traditional batteries, enabling batteries to become smaller and hold more power.

- › [Ford-Backed Techstars Mobility](#)

"The first year exceeded all expectations, with 10 amazing companies, a worldwide response, more than 300 participating mentors across Detroit and eight active corporate entities."

Ted Serbinski

Managing Director, Techstars Mobility

Connectivity

Imagine... each vehicle as part of the internet of things, equipped with sensors that can detect the environment in real time and interact with other connected parts of our digital lives.

Connectivity is the ability of things, devices and systems to connect with each other, allowing data to be exchanged between them.

Connected Worlds for Sustainable Mobility

Thinking ahead to a time when buses and trains might have similar capability, we can see rich possibilities for helping people move seamlessly and with fewer carbon emissions. This isn't going to happen tomorrow, but it's a real future that's both transformative and exciting.

"When the worlds of connected cars and connected homes collide they become part of connected lifestyles. It's part of the mobility services journey Ford is on to become more intimate with our customers' lifestyles in order to deliver great experiences both inside and outside the vehicle."

Don Butler

Director, Connected Vehicle Services

Progress Against Our Plan

There are 15 million vehicles with SYNC capability on the road today, expected to grow to

43 million by 2020.

By expanding the capability of Ford SYNC®, the industry's leading in-car entertainment and communications system, we're equipping our vehicles with more ways to link up to the internet and more ways for people to interact with apps.

Connecting a smartphone to the car has become familiar to many. Increasingly, the car itself is now part of the internet of things; we're starting to leverage the potential of built-in data connections so that consumers can benefit from apps without needing to bring a device into the vehicle.

Building on this, we're experimenting with connecting cars to each other, and are in the early stages of exploring vehicle-to-vehicle infrastructure, so that ultimately cars may be connected to the roadways and networks around them.

Case Study:

TAKING CONNECTIVITY TO THE NEXT LEVEL

We announced a number of innovations at the start of 2016, which expand our SYNC system and offer consumers more connectivity, even when they are away from their cars:

- The first apps using available vehicle information (such as GPS location and mileage) are rolling out to help users stay connected behind the wheel – to plan a route, access real-time traffic conditions, reconcile the day's business trips, or discover local events and attractions.
- With Apple CarPlay added to SYNC, iPhone users have access to Maps, Messages, Phone and Music through Siri voice control or touch screen, while Android Auto™ enables easier and safer access to Google voice search, Google Maps, Google Play Music and more via steering wheel controls and touch screen.
- New SYNC Connect technology powered by 4G LTE enables remote start, door unlock, fuel level check and location of a parked vehicle, all via smartphone.

[› VIDEO: Four Things You Can Do With Available SYNC Connect](#)

Mobility

Imagine... a trip from the outskirts to the center of a densely populated megacity, where every stage goes according to plan as part of an integrated journey combining two or more modes of transportation.

Changing the Way the World Moves

"The experiments we're undertaking today will lead to a completely new model of mobility within the next 10 years and beyond."

Mark Fields

President and Chief Executive Officer

In our Ford Smart Mobility vision of the future, we see people routinely sharing vehicles, moving efficiently, avoiding congestion and knowing how to move through every part of the journey, whatever form of transportation is used.

Progress Against Our Plan

We have used the learning from experiments in multimodal trip integration, vehicle-sharing and flexible ownership to launch new pilot services over the past year.

GoDrive on-demand car-sharing in London is the first service to offer one-way trips with guaranteed parking and complements the city's existing transport systems. The fleet consists of Focus battery electric vehicles and Fiesta 1.0L Ecoboost® to promote low emission transport modes in the city.

[› EUROPE: GoDrive: Car Sharing in London](#)

Innovation is key; we need to reimagine and transform multimodal transportation to make traveling in and out of urban centers less complicated.

[› VIDEO: The Multimodal Journey](#)

Case Study:

FORD CREDIT LINK: SHARED VEHICLE OWNERSHIP

By 2025, projected worldwide revenue from the sharing economy will be \$330 billion. In China alone, the market is worth almost \$300 billion in 2015 and is set to grow to 10 percent of national GDP over the next five years.

The trend toward "collective consumption" is a growing global phenomenon, evident in the popularity of sharing platforms and smartphone apps such as ride-sharing and taxi-hailing. This holds significant promise for future mobility as well as for easing congestion and reducing emissions.

Our Ford Credit Link pilot program, launched this year in Austin, Texas, is in tune with these needs, enabling small groups of friends and neighbors to share a Ford vehicle in a convenient way.

As a group, they can reserve drive time, check vehicle status, keep up with maintenance, communicate with each other, view their account and make payments through a vehicle plug-in device and app.

Ford Credit Link makes Ford vehicles more readily available to people who may not want or need their own vehicle full time but who still have mobility requirements that must be met.

Autonomous Vehicles

Imagine... a future when your vehicle has decision-making "brains" and an ability to "see" the world in real-time 3D, helping you anticipate different scenarios and making you a better driver. One day, in the right environment, vehicles could even become self-driving.

Better, Safer Driving for Everyone

Our vision is for autonomous vehicles, combined with vehicle connectivity, to be available for everyone and not just a select few. For the elderly, cars with semi-autonomous features or cars that can drive themselves could mean a longer driving life, greater independence and more social interaction.

Ford is already using cameras, radars and ultrasonic sensors to deliver features available on millions of our vehicles today. These include adaptive cruise control, active park assist, lane-departure warning, lane-keeping aid, pedestrian detection, and Pro Trailer Backup Assist.

Progress Against Our Plan

We're tripling our fully autonomous fleet from 10 to

30 test vehicles,

the largest publicly announced by any automotive Original Equipment Manufacturer (OEM).

We're accelerating our 10-year autonomous vehicle program and tripling our fleet of fully autonomous Ford Fusion Hybrid test vehicles to take development to the next level.

In 2015, we secured the permit to begin testing the fully autonomous Ford Fusion Hybrid on California public roads, adding to the on-road testing underway in Michigan and Arizona. With more autonomous vehicles on the road in more environments, we can accelerate the development of software to make our vehicles even smarter.

In another advancement, Velodyne's newest LiDAR sensors will be built into our third generation of test vehicles. The Solid-State Hybrid Ultra PUCK™ sensors are small enough to fit into the sideview mirror and with a longer range of 200 meters they are the first auto-specific LiDAR sensors capable of handling different driving scenarios.

Case Study:

AUTONOMOUS VEHICLE TESTING IN REAL-WORLD CONDITIONS

To develop vehicles that deliver high levels of performance, rigorous testing in real-world scenarios is essential and Ford is collaborating with the University of Michigan on a solution that even allows an autonomous vehicle to "see" on a snow-covered road.

The industry-first snow testing is taking place at [Mcity](#) – a 32-acre, full-scale simulated real-world urban environment at the University. Our autonomous vehicles are equipped with high-resolution 3D maps – complete with information about the road and what's above it, including road markings, signs, geography, landmarks and topography.

› [VIDEO: Snowtonomous Driving](#)

"Maps developed by other companies don't always work in snow-covered landscapes. The maps we created with Ford contain useful information about the 3D environment around the car, allowing the vehicle to localize even with a blanket of snow covering the ground."

Ryan Eustice

Associate Professor, University of Michigan College of Engineering

Customer Experience

Imagine... moving through your physical and digital worlds easily every day, connecting with smart home devices from your vehicle, accessing customized experiences that match your lifestyle – and helping you be where you want to be, regardless of how.

Transforming the Consumer Experience

Solving mobility problems and providing great experiences is already happening at Ford. Today, as we explore the integration of mobility solutions, connectivity, autonomy and data analytics from a consumer perspective, we're developing more ways to serve our customers best.

As part of our journey, we're starting to reimagine what vehicles of the future could be, using experience-led design and research insights. For example, at Ford's request, consultancy firm ReD Associates has spent more than 4,000 hours with thousands of our customers around the world since 2012, gathering insights on the way people interact with their vehicles, to inform our product development process. By shifting from a features-based approach to one led by the customer's experience, we can better understand these interactions and offer the products and services that customers want and value.

Progress Against Our Plan

- FordPass® is our innovative and free platform, which launched in April 2016. FordPass supports both our core and emerging businesses through digital, physical and personal experiences to help consumers move more efficiently
- With Amazon Echo and cloud-based voice service Alexa, we're exploring how smart cars can connect with smart homes, allowing consumers to access Internet-enabled devices such as lights, home security systems, TVs and garage doors from behind the wheel, and also providing access to the vehicle from inside the home
- Lincoln Automotive Financial Services is exploring new ways for customers to monitor their mileage daily and predict lease-end mileage through mobile and online updates while earning up to \$1,000 toward their next Lincoln vehicle

Case Study:

FORDPASS: A SMARTER WAY TO MOVE

We see FordPass as one of the company's most significant innovations ever, offering a range of customized experiences, services and support to consumers with the flexibility to include additional features and services over time:

- FordPass Marketplace: We're working with partners to provide mobility products and solutions, including ways to find and pay for parking more easily. In the future, services will include ride sharing, car sharing and multimodal transportation
- FordGuides: Members can speak directly to knowledgeable FordGuides free of charge. Their only job is to solve mobility challenges, not to sell
- FordPass Perks: Members will be rewarded for engaging with Ford, including registering, parking, or setting up their FordPay wallet
- FordHubs: Mobility experience centers staffed by FordGuides and located in New York, San Francisco, London and Shanghai will help guests understand mobility options available in their cities

Data Analytics

Imagine... having the real-time information you need to take the right transportation decision; being able to remotely locate, unlock and start your vehicle; or accessing ride-sharing and car-sharing at the touch of a button.

Shaping Ford Smart Mobility Through Analytics

Big data in the mobility space is the ultimate analytics and data governance challenge, involving the use and management of large amounts of unstructured information and highly complex problem-solving.

We are making a comprehensive investment in analytics to support our customers with future products and services. By leveraging analytics, we can also communicate more effectively with our customers and optimize the business opportunities.

Maximizing the value of data is key to delivering our Ford Smart Mobility plan. To achieve this we are focused on meeting significant challenges in both analytics and data management.

Progress Against Our Plan

We are implementing the four key workstreams of our strategy:

1. Data management, including data privacy and security
2. Support for breakthrough technologies like autonomous vehicles
3. Leveraging connectivity insights with the customer's approval
4. Support for mobility solutions

Technology partnerships are key to enabling us to develop core apps and deploy them in the marketplace. We continue to develop and strengthen our partnerships with a range of thought leaders and world-class tech companies.

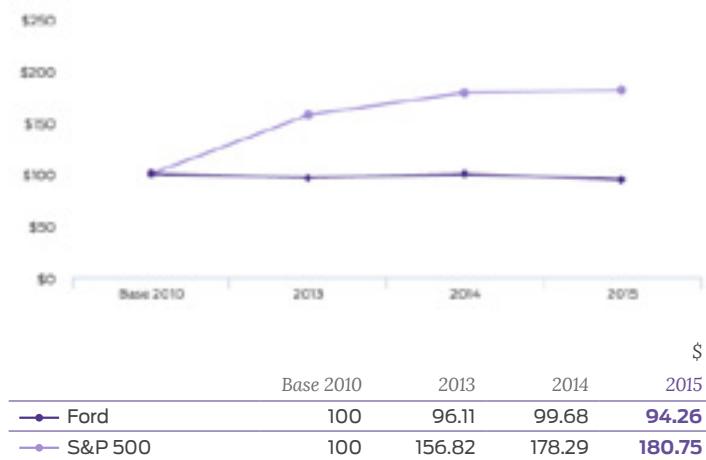
Protecting and Handling Personal Information

Ford recognizes the paramount importance of protecting information entrusted to us and has established policies and procedures to ensure customer choice, privacy and responsible data-handling.

Data

Financial

A. Cumulative Shareholder Five-Year Return



Provided by third party: Standard & Poor's, a division of the McGraw Hill Financial

Data notes and analysis:

Updated data to reflect 2010 base.

For more information, please see Ford's [Annual Report](#).

Also see:

› [Sustainable Business Strategy](#)

B. Financial Operating Highlights

Key Metrics

	\$ billion, except for percentages		
	2013	2014	2015
Automotive			
Revenue	139.4	135.8	140.6
Operating margin ¹	5.4%	4.6%	6.8%
Operating-related cash flow ²	6.1	3.6	7.3
Ford Credit			
Pre-tax profit	1.8	1.9	2.1
Total company			
Pre-tax profit ²	8.6	7.3	10.8

Amounts Attributable to Ford Motor Company

	\$ million		
	2013	2014	2015
Net income	7,182	1,231	7,373

Cash and Spending

	\$ billion		
	2013	2014	2015
Automotive cash at year end			
Automotive gross cash ³	24.8	21.7	23.6
- Cash net of Automotive debt	9.1	7.9	10.8
Automotive capital spending	6.6	7.4	7.1

Shareholder Value

	\$ per share		
	2013	2014	2015
Dividends paid	0.40	0.50	0.60

Data notes and analysis:

1. Automotive operating margin is defined as Automotive pre-tax results, excluding special items and Other Automotive, divided by Automotive revenue.
2. Excludes special items; reconciliation to GAAP for full-year 2014 and 2015 provided in "Results of Operations" ([p34, 2015 Annual Report](#)) and "Liquidity and Capital Resources" ([p65, 2015 Annual Report](#)).
3. Automotive cash includes cash, cash equivalents and marketable securities net of securities-in-transit.

For more information, please see [Form 10-K](#) and [Annual Report](#).

Also see:

› [Sustainable Business Strategy](#)

C. Profile of Ford Investors

	Percent		
	2013	2014	2015
Institutional investors:			
Top 15	52	54	55
Others	24	27	26
Employees and management	28	27	29
Individuals ¹	6	6	6
	42	40	39

Provided by third party

Data notes and analysis:

1. The ownership by individuals includes shares owned by the Ford family and by Ford employees and management outside of the company savings plans.

For more information, please see Ford's [Annual Report](#).

Also see:

› [Sustainable Business Strategy](#)

D. Worldwide Income Taxes Paid

	2013	2014	2015
Income taxes paid/(refunded)	\$538	\$467	\$585

Data notes and analysis:

For additional information regarding income taxes, see [Note 21 of the Notes to the Financial Statements in the 2014 10-K](#).

Also see:

› [Sustainable Business Strategy](#)

Market Share and Sales**A. Ford Motor Company Market Share – United States****Reported to regulatory authorities****Data notes and analysis:**

Market share represents reported retail sales of our brands as a percent of total industry volume in the relevant market or region. Market share is based, in part, on estimated vehicle registrations; includes medium and heavy trucks.

Also see:

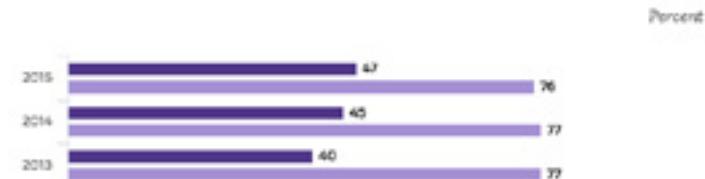
› [North America](#)

B. Ford Motor Company Market Share – Europe**Reported to regulatory authorities****Data notes and analysis:**

Amounts shown are based on total Europe. We previously reported these amounts on a Europe 20 basis, which consisted of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom. Europe 20 industry volume was 16.0 million, 14.6 million and 13.8 million in 2015, 2014 and 2013, respectively. Europe 20 market share was 8.0 percent, 7.9 percent and 7.8 percent in 2015, 2014 and 2013, respectively.

Also see:

› [Europe](#)

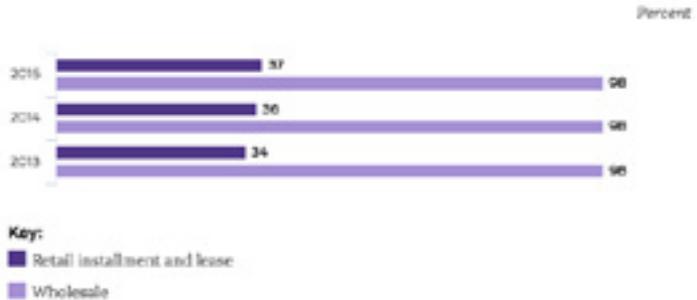
C. Ford Credit Financing Share – United States**Key:**

- Retail installment and lease
- Wholesale

Reported to regulatory authorities**Data notes and analysis:**

These data include Ford and Lincoln vehicles only.

For more information on Ford Credit, please visit [www.fordcredit.com](#). For more information on Ford Credit financial information, visit the [Ford Credit investor center](#).

D. Ford Credit Financing Share – Europe**Key:**

- Retail installment and lease
- Wholesale

Reported to regulatory authorities**Data notes and analysis:**

These data include Ford vehicles only.

For more information on Ford Credit, please visit [www.fordcredit.com](#). For more information on Ford Credit financial information, visit the [Ford Credit investor center](#).

E. Summary of Total Company Wholesale Vehicle Unit Sales^{1,2}**Reported to regulatory authorities****Data notes and analysis:**

1 Wholesale unit volumes include sales of medium and heavy trucks.

2 Wholesale unit volume includes all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships, units manufactured by Ford that are sold to other manufacturers, units distributed for other manufacturers, and local brand units produced by our unconsolidated Chinese joint venture Jiangling Motors Corporation, Ltd. ("JMC") that are sold to dealerships. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volume. Revenue from certain vehicles in wholesale unit volume (specifically, Ford badge vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue.

Innovation**A. U.S. Utility Patents Issued to Ford and Subsidiaries****Data notes and analysis:**

Utility patents are patents that cover the useful features of an invention, and these are measures of technological innovation. We have generated a large number of patents related to the operation of our business and expect this portfolio to continue to grow as we actively pursue additional technological innovation. The average age for patents in our active patent portfolio is just under five and a half years.

Also see:

› [Ford Smart Mobility](#)

PRODUCTS AND CUSTOMERS

Producing high-quality, smart, safe vehicles that delight our customers.

“Quality is a journey. This journey is about continuous improvement and, ultimately, transformation. As with any journey, you need to decide where you are going and how you are going to get there.”

At Ford Motor Company, we have a clear destination for our quality journey: to deliver world-class quality in every region. We reach our destination by improving every day.”

Bennie Fowler
Group Vice President of Quality, Ford

Greener Products

We’re committed to doing our share to prevent or reduce environmental, economic and social harm due to climate change. To meet our climate stabilization goals, we are following an ambitious plan to make our products emit less carbon dioxide.

Responding to the risks and opportunities presented by climate change, our science-based global strategy aims to reduce greenhouse gas (GHG) emissions from our operational processes. It also encompasses our Sustainable Technologies and Alternative Fuels Plan to deliver high-quality products that meet consumer demand while also helping to stabilize atmospheric carbon dioxide (CO₂) at 450 parts per million.

Through this plan, and working closely with policy-makers around the world, we continue to reduce GHG emissions from our vehicles in line with regional “glide paths.” These trajectories define the emissions reductions needed to meet our climate change commitment. (Read more in Sustainability at Ford.)

We recognize that there’s no single way to improve fuel efficiency and cut vehicle CO₂ emissions. That’s why we take a “portfolio approach” across three areas:

Vehicle

To offer customers the “power of choice,” we are developing or have introduced affordable, accessible lower carbon options:

- New engine/transmission technologies
- Electrical system improvements
- Aerodynamic improvements
- Size and weight reductions
- Advanced powertrain options
- Electrified vehicles
- Vehicles powered by alternative fuels

IN THIS SECTION

- [Greener Products](#)
- [Product Quality and Customer Satisfaction](#)
- [Vehicle Safety](#)
- [Data](#)

Fuel

We are evaluating, developing or have introduced vehicles that use fuels with lower fossil carbon content:

- Biofuels
- Electricity
- Compressed natural gas (CNG)
- Liquefied petroleum gas (LPG)
- Hydrogen

Customer

Customers decide which vehicles and fuels to purchase and how those vehicles will be driven and maintained.

We promote “eco-driving,” providing training, information and vehicle technology to help customers use the least fuel possible.

Global Technology Migration Path – CO₂ Reduction

For the past eight years, Ford has been following an ambitious plan of vehicle technology and alternative powertrain and fuel actions. By implementing this consistently, we are improving fuel economy and reducing CO₂ emissions across our product portfolio, and working toward a more sustainable future.

In Place (2015)

Internal Combustion Engine (ICE)

- EcoBoost® engines available in nearly all vehicle nameplates
- Diesel engine/after-treatment technology for reduced emissions

Energy Management, Electrical Architecture and Efficiency

- Electric power-assisted steering widely available
- Global migration of battery management systems ongoing
- Aerodynamic improvements

Transmission

- 6-speed replaces 4- and 5-speed automatic transmissions

Alternative Fuels

- Vehicle and powertrain capability to leverage renewable fuels
- Flex-fuel vehicles
- CNG engine prep option available as select markets demand

Electrification

- Auto Start-Stop systems introduced
- Hybrids/plug-in hybrids available in >10% of nameplates
- 20+-mile plug-in hybrid electric vehicle
- 76-mile battery electric vehicle

Fuel Cells

- First-generation automotive fuel cell stack complete

Near Term (2020)

Deploy Advanced Technologies Across Lineup

Internal Combustion Engine (ICE)

- Development of advanced technologies to further improve EcoBoost® efficiency/performance
- Innovation in diesel technology

Energy Management, Electrical Architecture and Efficiency

- Additional aerodynamic improvements

Transmission

- High volume 8+ speed automatic transmissions and advanced driveline technologies

Weight Reduction

- Significant weight reduction on new/major programs

Alternative Fuels

- Expand product capability for renewable fuels

Electrification

- Electrification solutions migrated to manual transmissions
- High volume application of Auto Start-Stop
- Hybrids/plug-in hybrids available in >25% of nameplates
- Introduce 30+-mile plug-in hybrid electric vehicle
- 200+-mile battery electric vehicle

Fuel Cells

- Progress second-generation fuel cell technologies

Mid Term (2025)

Expand Electrification and Alternative Powertrain Technologies

Internal Combustion Engine (ICE)

- Expand/optimize EcoBoost® technologies for electrified and alternative fuel applications and improved fuel properties
- Further develop diesel technology to enhance capability and affordability in key diesel vehicle segments

Energy Management, Electrical Architecture and Efficiency

- Develop intelligent energy management technologies, e.g. waste heat recovery

Weight Reduction

- Continued weight reduction using advanced materials

Alternative Fuels

- Implement diesel/gasoline technologies compatible with low-carbon/renewable fuels

Electrification

- Improved hybrid-specific engines for enhanced system efficiency
- Expand electrified driveline and transmission technologies
- Hybrids/plug-in hybrids available in >50% of nameplates
- Expand battery electric vehicle volume with enhanced battery chemistry, mechanical package and vehicle architecture

Fuel Cells

- Develop affordable fuel cell powertrain solutions for volume applications

Long Term (2030+)

Next-generation Powertrains and Improved Sustainability Standards

Policy/Mobility

- Improve sustainability beyond regulatory standards by integrating vehicle technologies, low-carbon/renewable fuels and Ford Smart Mobility solutions
- Explore cross-sector GHG sustainability opportunities

Weight Reduction

- Lightweight material models proliferate to global platforms

Alternative Fuels

- Evolve technologies in response to progress in low-carbon/renewable fuels

Electrification

- Next-generation hybrid, plug-in hybrid and battery electric vehicle technologies to further improve weight, size, cost and functionality
- Continued expansion of all-electric vehicles across portfolio

Fuel Cells

- Migration timing aligned with fuels and infrastructure

› [DATA: Vehicle Fuel Economy and CO₂ Emissions](#)

What We're Doing

Improving Fuel Economy

We continue to improve the fuel efficiency of our gasoline- and diesel-powered vehicles through advanced engine and transmission technologies and reduced vehicle weight.

› [Read more](#)

Alternative Fuels and Powertrains

We offer a range of alternative fuels and powertrain options, including electrified vehicles, hybrids and vehicles that run on renewable biofuel blends, natural gas and propane.

› [Read more](#)

Using Sustainable Materials

Our use of sustainable materials enhances the safety, fuel economy and performance of our vehicles, and the end-of-life options.

› [Read more](#)

A Life Cycle Approach

We use a life cycle approach to understand, assess and reduce the adverse impacts of our products. Life cycle assessment considers the materials and energy use and emissions generated over the entire life cycle of our products, from their creation to the end of their useful life.

The Life Cycle of a Vehicle

The life cycle of a vehicle spans the environmental impacts associated with:



Quantifying Vehicle and Fuel Impacts

As our product portfolio includes an ever-widening range of engines and fuels, life cycle assessment (LCA) becomes increasingly complex and all the more important. We are continuing to develop a portfolio of LCA tools to gain a more holistic understanding of the impacts of our products over their life cycle.

Historically, much of our work to improve the life cycle performance of our products has focused on their life cycle greenhouse gas (GHG) and other emissions. However, we are now also working to understand the total impacts of our products and the fuels they use.

Estimates of life cycle GHG emissions vary with the specifics of the vehicle, including engine and fuel type:

- In conventional gasoline- and diesel-powered vehicles, most life cycle GHG emissions are released **during the use phase**, with diesel vehicles generally having lower lifetime GHG emissions than gasoline equivalents.
- Most of the life cycle GHG emissions from plug-in hybrid electric vehicles (PHEVs), battery electric vehicles (BEVs) and hydrogen-powered fuel cell vehicles (FCVs) are released **during the production of the fuel, either electricity or hydrogen**. Overall CO₂ emissions depend on the carbon intensity of the electricity generation (for PHEVs and BEVs) and hydrogen production (for FCVs). The CO₂ emission benefits of BEVs and PHEVs are maximized when the electricity used to power the vehicles is generated from low-CO₂ sources such as wind or solar.
- Whether the fuel is gasoline, electricity or another alternative fuel, GHG impacts from fuel production are part of the vehicle/fuel GHG life cycle. They are not within the control of the vehicle manufacturer, and need to be addressed under a separate framework. To achieve the desired GHG reductions at this stage, other stakeholders such as fuel producers, infrastructure developers and government are essential participants in the development of a solution.

- [› Non-CO₂ Emissions](#)
[› Alternative Fuels and Powertrains](#)

Applying LCA

We are applying the knowledge gained through LCA in product development decisions, using our Product Sustainability Index (PSI) in Europe. The tool assesses eight attributes: life cycle global warming potential; life cycle air-quality potential; the use of sustainable materials; vehicle interior air quality; external noise; safety; seat and luggage capacity relative to vehicle size; and total ownership costs over the first three years.

Through the PSI, our new European vehicles have demonstrated improved environmental, social and/or economic performance over their life cycle when compared with previous models.

LCA in Action: Comparing Material Choices

We use LCA to help us assess the environmental and cost impacts of different materials.

- Having compared the relative benefits of soy-based foam and traditional petroleum-based foams, we found a net decrease of 5.5 pounds of CO₂e per pound of soy oil used over the life cycle of the vehicle.
- Through LCA, we also found that lightweighting delivers the most life cycle GHG benefits on larger, heavier and more powerful vehicles, underpinning our decision to increase the use of aluminum and high-strength steel used in the 2015 Ford F-150. While the energy required to make such materials can exceed that used to produce conventional steel, the associated increase in emissions is more than offset by the GHG

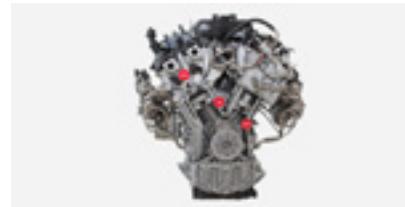
savings from the vehicle's reduced weight and improved fuel efficiency during use. After about a year of typical use, we estimate that the F-150 will have already offset the additional GHG emissions associated with using lightweight materials.

Improving Fuel Economy

Through our Sustainable Technologies and Alternative Fuels Plan, we use a variety of approaches to improve the fuel economy of our conventional gasoline- and diesel-powered vehicles. These include advanced engine and transmission technologies, reduced vehicle size and weight, and improved vehicle subsystems.

Engine and Transmission Technologies

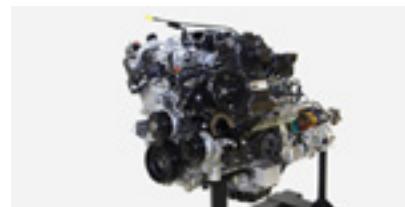
EcoBoost Engine



Our EcoBoost® engine uses turbocharging and direct fuel injection to deliver significant fuel-efficiency gains and reduced CO₂ emissions in gasoline-powered vehicles. We have produced more than 5 million EcoBoost-equipped vehicles since 2009, with engines ranging in size from 1.0L to 3.5L. It is now available on 32 different vehicles, including all our North American nameplates, and in all our operating regions.

The 2.7L EcoBoost V6 engine helped the 2016 Ford F-150 take the Green Car Journal's 2016 Green Truck of the Year™ title.

Diesel Engines



Diesel engines operate lean and unthrottled, and at a higher compression ratio, than gasoline engines, and diesel fuel has approximately 10 percent more energy by volume than gasoline. As a result of these factors, modern diesel engines consume 25 to 30 percent less fuel by volume (15 to 20 percent less by energy) than gasoline engines and, on a well-to-wheels basis, emit up to 20 percent less CO₂ per kilometer. Thanks to technologies such as diesel oxidation catalysts, diesel particulate filters, selective catalytic reduction systems and lean NOx traps, non-CO₂ emissions such as NOx and particulate matter have been greatly reduced. Gasoline engines continue to have an advantage in terms of the ability to control non-CO₂ emissions to very low levels, and the gasoline/diesel mix varies from region to region based on regulatory requirements and other societal factors.

In Europe, we have enhanced our lineup with ECOnetic versions of the Ford Fiesta, Focus, Mondeo and Transit. In North America, we offer two advanced diesel engines: the 6.7L Power Stroke® V8 and a new 3.2L Power Stroke turbo diesel. Our advanced diesel engines are also compatible with [biodiesel](#).

Advanced Transmissions



We have adopted fuel-efficient, 6-speed advanced transmissions across our portfolio, and continue to improve their performance by matching them with the best engine options and reducing parasitic losses due to mechanical friction and hydraulic-related losses. We are also evaluating a new generation of 9- and 10-speed automatic transmissions in partnership with General Motors, which could further improve fuel economy significantly. Having migrated to 6-speed gearboxes in all major regions, we will start deploying 9- and 10-speed transmissions in the coming years.

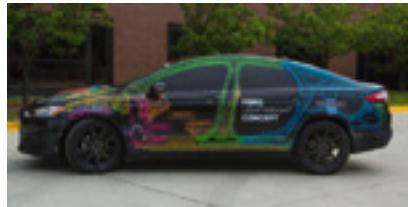
Size and Weight Reductions

Vehicle Size



We continue to offer a range of smaller vehicles featuring better fuel economy, such as the Ford Fiesta in the United States and the Ford EcoSport compact SUV in Brazil, China, Europe, India and other markets. To support this strategy, we create global vehicle platforms with “plug-and-play” compatibility across a range of fuels and powertrains.

Vehicle Weight



Reducing vehicle weight also improves fuel economy and performance. We're achieving weight reductions through design optimization and new manufacturing processes, and by using more lightweight materials such as high-strength steels, magnesium and aluminum, as well as natural fibers and carbon fiber composites. For example:

- The all-new [Ford F-Series Super Duty](#) is approximately 350 pounds lighter than the outgoing model, thanks to the extensive use of high-strength steels and aluminum alloys, which enabled improved functional capability.

- The Ford F-150 is approximately 700 pounds lighter than the previous generation, depending on the configuration. The F-150's body uses new applications of aluminum alloys, which not only reduce weight but also improve the dent resistance and overall durability of the truck body. On its own, a 10 percent reduction in vehicle weight typically improves fuel economy by approximately 4 to 5 percent but, if a vehicle is lighter, we can also reduce the engine size required, helping to improve overall environmental performance.

Ford researchers are also investigating and developing new lightweight materials that will enable further weight reductions. These include:

- Automotive-grade carbon fiber, in partnership with DowAksa and the Institute for Advanced Composites Manufacturing Innovation
- New types of steel that are up to three times stronger than current steels
- Copper-based wire harness technologies
- Polymeric plastic strengthening foams – strong enough to stabilize bodywork in an accident but light enough to float on water – to reinforce sections of the steel auto body

Helping Customers to Use Less Fuel

- Our navigation system has an Eco-Route option that calculates the most fuel-efficient route, achieving fuel savings of up to 15 percent.
- In Europe, the EcoMode system monitors “eco-driving” factors such as gear changes, operating mode (i.e. driving smoothly) and speed that drivers can affect through their driving style.
- We offer training on aspects of eco-efficient driving through the Ford Driving Skills for Life program.
- To help fleet customers assess the relative life cycle impact of different options, we have developed the Fleet Purchase Planner™. This includes an Emissions and Fuel Cost Calculator, a Fleet CO₂ Footprint Status Calculator and a Purchase Recommender.

[› Vehicle fuel economy \(Annual Report, pages 8–10\)](#)

Alternative Fuels and Powertrains

Our Sustainable Technologies and Alternative Fuels Plan includes the exploration and development of alternative powertrain and fuel options across all our vehicles.

Global Fuels Migration Path

As part of our strategy to achieve our climate stabilization goals and a more sustainable product portfolio, we have developed a roadmap for migrating our vehicle technologies toward the use of lower carbon fuel options.

In Place (2015)

Gasoline and Diesel

- Growth of fossil fuel continues with extraction technologies

Renewable Biofuels

- First-generation biofuel production increases (primarily South America)

CNG and LPG

- CNG available in limited markets

Electricity (HEV, PHEV, BEV)

- Electricity grids start to transition to low fossil CO₂ future

Near Term (2020)

Renewable Biofuels

- Second-generation biomass-based fuels introduced at low volume
- Total renewable fuel capacity expanded in select markets

CNG and LPG

- CNG expands in commercial fleets and available in limited markets

Electricity (HEV, PHEV, BEV)

- Electricity grids continue to transition to low-CO₂ future
- Fleet programs confirm grid/infrastructure readiness for Plug-in HEVs and BEVs

Hydrogen Fuel Cell

- Limited hydrogen fueling sites

Mid Term (2025)

Gasoline and Diesel

- Gasoline/diesel fuel quality improvements

Renewable Biofuels

- Second-generation biomass-based fuels expand at slow/moderate pace

CNG and LPG

- CNG availability increases with demand and production capacity

Electricity (HEV, PHEV, BEV)

- Electricity grids continue to transition to low-CO₂ future
- Grid/infrastructure and standardization support expansion of plug-in HEVs and BEVs

Hydrogen Fuel Cell

- Limited hydrogen fueling sites

Long Term (2030+)

Gasoline and Diesel

- Further petroleum/diesel fuel quality improvements to support advanced vehicle technologies

CNG and LPG

- CNG from alternative/renewable sources
- Increasing fraction of liquid renewable hydrocarbons in fuel portfolio

Electricity (HEV, PHEV, BEV)

- Clean electricity enables increased volume applications of Plug-in HEVs and BEVs

Hydrogen Fuel Cell

- Potential to begin ramp-up of hydrogen/infrastructure

Our Electrified Vehicle Strategy

Our extended electrified vehicle (EV) strategy aligns with increasing global trends calling for cleaner, more efficient vehicles. Already the top seller of plug-in hybrid vehicles and second-largest seller of electrified vehicles¹ in the United States, we are expanding our EV program so that we can share technology globally and test batteries virtually.

Investment

We are investing \$4.5 billion to advance our EV program through 2020, and \$2.1 million in a state-of-the-art [R&D facility at the University of Michigan](#) to develop advanced battery technology.

Expansion

By adding 13 new electrified vehicles to our product portfolio, more than 40 percent of our lineup will be electrified by 2020. We're also expanding our battery development program into Europe and Asia.

Technology

The new Focus Electric, with a projected 100-mile range and all-new direct current (DC) fast-charging capability, is projected to deliver an 80 percent charge in 30 minutes.

Electrified Vehicles

Hybrid Electric Vehicles (HEVs)



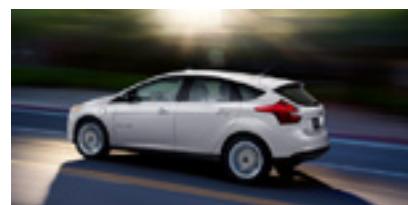
HEVs are powered by both an internal combustion (I.C.) engine and an electric motor with a battery system. When using the electric motor and battery system only – at low speeds and for short distances, for example – they don't consume gasoline. All our HEVs can run on battery power, on I.C. engine power, or a combination of both to optimize fuel efficiency. They also feature a regenerative braking system, capturing energy to recharge the battery. We are currently increasing our hybrid capability across our highest-volume global product platforms, including the Ford C-MAX, Ford Fusion and Lincoln MKZ.

Plug-In Hybrid Electric Vehicles (PHEVs)



PHEVs are powered by an internal combustion engine and a high-voltage electric battery that, unlike HEVs, can be charged from a private household or public electric outlet. When the battery is depleted, the vehicle can be powered by the engine. PHEVs also accrue charge through regenerative braking and discharge it during use. This provides additional fuel savings and can reduce direct tailpipe emissions to zero when running on battery power. Our two PHEVs are the Ford Fusion Energi and the Ford C-MAX Energi.

Battery Electric Vehicles (BEVs)



BEVs use a high-voltage electric motor, powered by a battery pack. Their primary benefit is their lack of tailpipe CO₂ and other emissions; however, they are not necessarily totally zero-emission over their life cycle, as this depends on the source of electricity used to charge their batteries. Our electric vehicles use lithium-ion batteries, offering better performance than the nickel-metal-hydride batteries they replaced. The new Focus Electric, for instance, will feature a projected 100-mile range on a single charge, and will offer DC fast-charge capability delivering an 80 percent charge in an estimated 30 minutes.

Vehicles Powered by Alternative Fuels

Renewable Biofuel Vehicles



Biofuels made from renewable resources offer a relatively affordable way to reduce CO₂ emissions. Two types are widely used:

- **Ethanol**, primarily made from fermented corn sugars or sugar cane, is usually blended with gasoline. In the United States, most retail market gasoline already contains up to 10 percent ethanol (E10), while E85 (United States and Europe) and E22/E100 (Brazil) are also common
- **Biodiesel**, made from soy, canola, rapeseed, corn or palm oil, or animal fats, is primarily mixed with diesel. The most common blends are B5 and B20 (in the United States) and B7 (in Europe)

We also support the further development and expanded production of next-generation biofuels made from plant cellulose. These can cut GHG emissions significantly, and using stems and leaves from crops such as corn could also reduce the competition with food crops.

CNG/LPG Vehicles



We offer engine packages specially prepared by qualified vehicle modifiers for conversion to compressed natural gas (CNG) and liquefied petroleum gas (LPG) on many vehicles. Typically, CNG and LPG vehicles have lower CO₂ and life cycle GHG emissions than gasoline or diesel vehicles; they also have lower non-CO₂ emissions. Vehicles with gaseous-prepped engines can be converted to CNG, LPG or to a bi-fuel system capable of running on either fuel or on regular gasoline. We offer a wider range of commercial vehicles with CNG and LPG than other manufacturers.

Hydrogen Fuel Cell Vehicles (FCVs)



Like BEVs, hydrogen fuel cell vehicles (FCV) are zero-emission electric-drive vehicles. The fuel cell system converts stored hydrogen to electricity, leaving only water and low-grade heat as byproducts. With our partner Daimler, and through the jointly owned Automotive Fuel Cell Cooperation (AFCC, Vancouver, Canada), we conduct research to overcome key barriers to commercialization including cost, durability and fuel infrastructure.

Relative CO₂ Savings vs Gasoline (E10) in the United States

Powertrain/Fuel	"Tank to Wheel" ⁶ CO ₂ Emissions	"Well to Wheel" ⁷ CO ₂ Emissions
HEV	-29%	-29%
PHEV ^{2,8}	-47%	-38%
BEV ²	-100%	-44%
E85 ³	-2%	-27%
CNG	-19%	-12%
LPG	-32%	-31%
FCV ⁴	-100%	-41%
Advanced diesel	-15%	-16%
B7 ⁵	-15%	-20%
B20 ⁵	-14%	-26%

1. HEVs, PHEVs and BEVs.

2. Average grid electricity mix.

3. Ethanol from corn.

4. Hydrogen from steam methane reforming of natural gas at central plant.

5. Biodiesel from rapeseed (RME).

6. 2010 U.S. vehicle efficiency from Joseck, F. and J. Ward. (2014), "Cradle to Grave Lifecycle Analysis of Vehicle and Fuel Pathways." DOE Hydrogen and Fuel Cells Program Record #14006. http://www.hydrogen.energy.gov/pdfs/14006_cradle_to_grave_analysis.pdf.

7. Well-to-tank from GREET2015 <https://greet.es.anl.gov/>.

8. PHEV has ~20 kilometer all-electric range.

Non-CO₂ Emissions

We are working hard to address emissions beyond CO₂ in our research, product development and operations.

Beyond CO₂

Smog-forming vehicle tailpipe emissions result from the incomplete combustion of fuels, impurities in fuels and the high temperature oxidation of atmospheric nitrogen during the fuel combustion process. Regulated smog-forming tailpipe emissions include hydrocarbons, nitrogen oxides (NOx), carbon monoxide and particulate matter.

We take the impacts on air quality and the related health risks from vehicle tailpipe emissions very seriously, recognizing that these pollutants increase with vehicle congestion.

Through our Restricted Substance Management Standard, we have prohibited greenhouse gases (GHGs) such as perfluorocarbons (PFCs) and sulfur hexafluoride (SF6). We have also replaced all chlorofluorocarbon (CFC) refrigerants with hydrofluorocarbons (HFCs), which do not contribute to ozone depletion and have significantly lower global warming impacts.

Globally, we continue to lower non-CO₂ GHG emissions, and we have approximately halved the HFC emissions from a typical light-duty vehicle since 2010. Nonetheless, we remain committed to developing and implementing technologies that will reduce non-CO₂ emissions even further.

Meeting Regional Emissions Standards

United States

Currently, the U.S. Environmental Protection Agency (EPA) requires vehicles to be certified to its Tier 2 regulations, which have helped reduce smog-forming emissions since 2004. The EPA's more stringent Tier 3 standards will be phased in from the 2017 model year. California has its own Low Emission Vehicle II (LEV II) program for light-duty vehicles, with different requirements from the federal Tier 2 program; LEV III requirements, which began to be implemented with the 2015 model year, closely align with the EPA's Tier 3 program. We plan to comply with both Tier 3 and LEV III standards as they are phased in.

Europe

All new passenger cars registered since September 1, 2015 comply with the Euro 6 tailpipe emissions standard Phase I. Phase II of the more stringent Euro 6 standards will apply from September 2018. For our light duty segment, the Ford Transit Connect and Transit Courier already comply with Euro 6 Phase I.

In recent years, concerns in Europe that "real world" emissions are higher than tested emissions led to the development of the Real Driving Emissions (RDE) protocol, which will involve testing vehicles on the road using portable emissions analyzers. In 2015, these concerns were reinforced by reports that a competitor, OEM, utilized different calibrations for test conditions and for on-road use, defeating the purpose of the emission tests.

Ford proactively supports efforts to ensure that test procedures more closely match the real-world conditions that customers experience under normal driving. Ford has supported the inclusion of the RDE initiative in the Euro 6 standards, and we are also involved in the development of the World Light Vehicle Test Procedure. These efforts will help to ensure that improvements in vehicle emission control systems will also lead to improvements in urban air quality.

Ford will measure and publish RDE results, including NOx emissions, according to Euro 6.2 emission regulations from 2016 onward. Ford complies with regulatory requirements worldwide, and we have processes and controls in place to ensure that compliance is ongoing.

[› EUROPE: Vehicle Emissions](#)

Other Regions

In our other regions, Ford meets the required tailpipe emissions regulations. These are generally based on the European non-CO₂ tailpipe emissions regulations system, but do vary by country. For example:

- In China, we meet the current regulations based on Euro 4 and Euro 5 standards
- In Brazil and Argentina, we meet new regulations based on Euro 5
- In the Middle East, we meet the current regulations based on Euro 2, and will meet future regulations based on Euro 4

[› Governmental Standards – Vehicle Emissions Control \(Annual Report, pages 7–8\)](#)

Using Sustainable Materials

Through our global materials strategy, we are increasingly using materials that are more sustainable from a total life cycle perspective, including recycled, renewable and recyclable materials, and working to decrease or eliminate less sustainable materials.

WHAT'S IN A VEHICLE?

Up to
40,000
parts

1,000
different materials
10,000
chemical substances

Metals

We are increasing our use of high-strength steel, aluminum, magnesium and titanium to reduce weight and improve fuel economy, with no compromises in durability, safety or reliability.

75% of a typical vehicle

Plastics, Elastomers, Textiles and Natural Materials

We use a wide range of plastics with recycled content, while renewable, plant-based materials will reduce our dependence on finite resources and reduce life cycle greenhouse gas emissions.

17% of a typical vehicle

Fuels and Consumable Liquids

Fuels, engine oil and lubricants are generally removed by dismantlers, and recycled or reused where possible.

4% of a typical vehicle

Electronics, Ceramics, Glass and Other Compounds

Some of these can be hard to recycle, so we work with suppliers, dismantlers and industry associations to share and implement best practices for dealing with them.

3% of a typical vehicle

Nondimensional Materials

Paint, adhesives and sealants are often a source of volatile organic compound (VOC) emissions during manufacture. We are taking steps to replace these materials with alternatives, or change our processes to reduce or capture VOC emissions.

1% of a typical vehicle

Our Sustainable Materials Strategy

We aim to use materials that have been obtained by socially sustainable means, that have lower environmental impacts and that provide equivalent or superior performance to existing materials. A material can be more or less sustainable based on factors including its origin (virgin, renewable or recycled), the methods used to acquire and process it, the emissions generated throughout its life cycle and its application.

The choice of materials is an important factor in a vehicle's sustainability across all life cycle stages and throughout our value chain. It can influence the safety, fuel economy and performance of the vehicle, as well as the options for recycling or reusing components at the end of its life.

We continue to reduce the number of materials we use, and prioritize locally sourced materials where we can to minimize their carbon footprint.

We take a holistic view to the materials used in our vehicles, considering their impacts at every stage of a vehicle's life cycle. This approach involves:

- Increasing our use of recycled materials
- Continuing to develop plant-based renewable materials
- Eliminating substances of concern
- Working on the health impacts of some materials to improve occupant health
- Addressing end-of-life impacts through improved recyclability
- Working with environmentally and socially friendly suppliers
- Continuing research on closed-loop recycling and second-life use of components

Where viable, we also "upcycle" materials into uses with higher material and performance requirements. For example, we are working on transforming post-consumer laundry detergent containers and milk bottles into blow-molded automotive components, and investigating the use of post-consumer drinks bottles for making energy-absorbing materials.

› [Developing Aluminum Alloys with Alcoa](#)

Nonvisible Applications

Our global sustainable materials strategy requires that a range of nonvisible plastic parts must be made out of plastics from post-consumer recycled waste, such as nylon, beverage bottles, tires and battery casings. Using parts with recycled content can also have additional benefits. For example, fabric rear-wheel liners, which contain up to 40 percent recycled content, are half the weight of plastic wheel liners and reduce the need for sound-deadening insulators, sprays and foams.

By using 50 million pounds of post-consumer recycled materials on the underhood and underbody parts of our North American vehicles, we

save around \$10 million per year.

Visible Applications

Using recycled materials for interior parts such as seat fabrics and components, carpets and headliner fabrics requires us to achieve the necessary appearance as well as performance.

To date, we have developed 50 seat fabrics made from at least 25 percent post-industrial or post-consumer recycled content, and currently use recycled seat fabrics in 12 vehicles. We are also the first automaker to use REPREVE®, a hybrid fiber made from 100 percent recycled plastic water bottles and post-industrial waste. Using REPREVE in the seat fabric of the Ford F-150 diverted more than 5 million plastic bottles from landfill in 2015 alone.

Recycling During Servicing

At our U.S. dealership service centers, we recycle, reuse and reprocess the parts removed during servicing, such as headlights, bumpers and windshield-wiper motors. Like many bottle-recycling programs, dealers are charged when they order a new part through our Core Recovery Program, but are reimbursed if it is recycled. Parts that can be remanufactured are cleaned, machined and tested before being used in new vehicles; otherwise, they are broken down into small pellets and used to make new parts.

The scheme forms part of our voluntary Go Green Dealer Sustainability Program, to which around half of our U.S. Ford and Lincoln Mercury dealers have signed up.

"Most parts that come back to us through the program still have a lot of life left. More importantly, however, we believe it's the right thing to do from an environmental perspective. For example, bumpers can yield as much as 20 pounds of material after they've been processed. That adds up fast and makes it pretty easy to see how much of an impact the program makes – and that's just one category."

Kim Goering

Manager of Remanufacturing and Recycling Programs, Ford

Recycled Materials

Using recycled materials diverts consumer and industrial waste from landfill, reduces the depletion of natural resources, and can lower both energy consumption and costs. However, post-industrial and post-consumer recycled materials must have the same level of quality and appearance, and the same performance requirements, as virgin materials.

OUR PERFORMANCE

Ford recycles enough aluminum scrap to build the equivalent of

30,000 F-150 bodies

every month.

A typical vehicle in North America comprises 20 to 25 percent post-consumer recycled material by weight, mainly due to the extensive use of metals with recycled content (see What's in a Vehicle?). We are now concentrating our efforts on nonmetallic materials, which are often composed of virgin content.

Recycling aluminum requires 95 percent less energy than refining raw aluminum from bauxite, and avoids the environmental impacts of mining. Aluminum can also be reused many times without loss of quality, although it must be in pristine condition to make auto bodies.

To achieve the required level of purity, we have invested \$60 million in equipment that separates, cleans and shreds aluminum, and transfers it straight into designated trucks.

Closed-Loop Recycling

In some cases, we recycle the materials from our auto parts back into the same use, a process known as "closed-loop recycling."

We work closely with our suppliers to recycle aluminum scraps from the production of the 2015 Ford F-150 to make more vehicles. These scraps, most of which come from stamping windows into body panels, can comprise 40 percent of the original metal used. Another supplier uses waste material from the production of seat fabrics to create new fabrics (see Visible Applications below).

Plastic parts in our vehicles can often be reused or recycled too. We use more thermoplastic polymers in our vehicles because they offer more flexible manufacturing and the potential for improved recyclability.

Renewable Materials

We continue to use more plant-based materials to reduce our carbon footprint and our dependence on petroleum. Scientists at our research centers in the United States, Germany, China and Brazil are developing foams, plastics and composites derived from renewable resources for millions of our vehicles every year.

The average Ford vehicle uses

20–40 pounds

of renewable materials.

The environmental, economic and performance benefits of these durable, plant-based materials include reductions in carbon dioxide (CO₂) emissions, vehicle weight and petroleum consumption; lower manufacturing energy use and costs; reduced pressure on natural resources; keeping waste out of landfill; and the creation of new markets and revenue streams for farmers.

Having introduced the industry's first soy-based foam in seat cushions and seat backs over a decade ago, our renewable materials program has now expanded to include eight different renewable material applications. These are all required to meet strict performance and durability specifications.

Current Technology

Soy Foam



In our North American vehicles, all seat cushions and backs, and most headrests, contain soy foam. Its use in new vehicles reduces our annual CO₂ emissions by more than 20 million pounds.

Plant Oil Applications



We are developing applications that use locally sourced plant oils, such as soy oil in the United States, mustard seed oil in Canada, castor oil in tropical regions, and palm oil in Asia, Africa and South America. Plant-based castor oil foam is used in instrument panels, and we also use castor-oil-based (PA 11) fuel lines and soy-oil-based seals and gaskets.

Natural-Fiber-Reinforced Plastics



We use renewable materials based on natural fibers to reinforce plastic in our vehicles:

- Cellulose-reinforced plastic, using fibers from sustainably grown trees, has been used to replace the fiberglass in the center console of the 2014 Lincoln MKX
- Wheat-straw-reinforced plastic used in the storage bins of the Ford Flex has cut petroleum use and CO₂ emissions
- Kenaf, a tropical plant, is used in compression-molded plastic door parts in the Ford Escape
- A material containing 50 percent flax fiber is used in the armrest of the Ford B-MAX in Europe

We are focusing on ways to use the waste from existing crop production. For example, rice hulls, a byproduct of rice grains, reinforce the composite plastic in the wire harness of the 2014 Ford F-150 while coconut coir, from coconut husks, is used in the trunk mats of the Ford Focus Electric battery electric vehicle.

Research Partnerships

Almost

300 vehicle parts

are derived from renewable sources such as soybeans, cotton, wood, flax, jute and natural rubber.

We continue to research renewable materials and potential applications at our research centers around the world, and through partnerships with suppliers and nonautomotive partners.

Along with Coca-Cola, Heinz, NIKE and Procter & Gamble, we co-founded the Plant PET Technology Collaborative (PTC), a strategic working group focused on accelerating the development and use of 100 percent plant-based PET materials and fibers.

We are also part of [Bioplastic Feedstock Alliance \(BFA\)](#), working to support the responsible development of plastics made from plant material, and helping build a more sustainable future for the bioplastics industry.

Case Study:

SEEKING SOLUTIONS BY MIMICKING NATURE

In September 2015, we hosted a forum at our Dearborn campus with Procter & Gamble and The Biomimicry Institute, a nonprofit that uses nature to inspire sustainable solutions to modern-day challenges. Nearly 200 researchers and designers took part in the day-long session to learn how to apply biomimicry in their work.

We are now looking to nature to further improve the sustainable materials we use. For example, the gecko, a lizard that can stick to most surfaces without liquid or surface tension, could lead to a host of adhesive innovations and may also inspire the fabric technologies of tomorrow.

"As we look to further our commitment to reducing our environmental footprint, taking a holistic, biomimetic approach makes sense because nature has efficiencies in design and uses minimal resources. Nature is the ultimate guide."

Carol Kordich

Global Sustainable Fabric Strategies and Development, Ford

"We are continuing to search for innovative and creative renewable material technologies that can reduce our dependence on petroleum, create new markets for agricultural products and generate additional revenue streams for farmers. They can also reduce vehicle weight, resulting in improved fuel efficiency and lower vehicle emissions. The availability, price and quality of renewable materials play a big role in automotive applications with, for example, hemp, sisal, fast-growing bamboo and eucalyptus all suitable as fillers in composites made in South America and Asia.

We are also the first automaker to develop foams and plastics using captured CO₂ for body interior and underhood applications. We believe they provide a global solution for replacing petroleum-based chemicals with sustainable alternatives. We are currently working with several companies, suppliers and universities to find ways to apply carbon capture and recycling to reduce the amount of fossil-fuel-based materials and leave a better world for future generations."

Alper Kiziltas

Sustainable Biomaterials and Plastic Research Scientist, Ford

Eliminating Substances of Concern

Our Restricted Substance Management Standard (RSMS) designates the materials to be avoided or eliminated from our operations and our vehicles.

The first of its kind in the industry, the RSMS process is embedded in our Global Product Development System (GPDS). We also monitor and manage materials through:

- The **International Material Data System (IMDS)**, an industrial web-based tool sponsored by around 40 original equipment manufacturers (OEMs) and used by more than 100,000 companies worldwide to track, review and report vehicle components
- **Global Materials Management (GMM)**, a materials and substances tracking and reporting tool used by our engineers and suppliers
- The **Global Material Approval Process (GMAP)** for nondimensional materials such as paints and adhesives

Our Progress

Through these processes and tools, we have managed to eliminate or reduce substances of concern well ahead of regulatory requirements.

- We were one of the first automotive companies working to eliminate a number of chemicals¹ being monitored by the EU, U.S. and Canadian governments
- We phased out "hex chrome" (hexavalent chromium) across our operations before it was banned. Hex chrome is a corrosion coating used on nuts, bolts and brackets that the U.S. Occupational Safety and Health Administration lists as a potential lung carcinogen
- In North America and Europe, we have transitioned from lead to steel wheel weights
- In 2015, the Alliance of Automobile Manufacturers signed a Memorandum of Understanding with the U.S. Environmental Protection Agency committing to phase copper out of brake friction material, because it degrades on use and can end up in the water cycle through urban drainage systems. We already offer vehicles with copper-free brake pads
- We eliminated mercury from all components, and we're working to address end-of-life impacts associated with mercury-based components in older vehicles
- We have a phase-out strategy for all EU REACH substances that have reached their [ANNEX IV](#) sunset dates²
- We monitor ongoing developments in other global substance restrictions such as the [Stockholm Convention](#) and the [Basel Protocol](#)

Taking a leadership role in our efforts to eliminate less desirable chemicals, we chair several industrial association working groups. These include:

- The U.S. Council for Automotive Research's Substances of Concern Committee
- The Automotive Industry Action Group's Chemical Management and Reporting Group
- The Global Automotive Declarable Substance List (GADSL) Committee
- ACEA's (EU car manufacturer association) working group on materials and substances

› [Conflict Minerals](#)

Rare Earth Elements

While not all "rare earth elements" (REEs) are rare, these 17 chemicals are hard to extract economically or sustainably. Small quantities have been used in internal combustion vehicles for years but electrified vehicles use larger quantities of neodymium and dysprosium in their electric motors and battery systems. Having assessed the amount of REEs our vehicles contain (a challenge in itself, given the small quantities and number of components), we have focused on reducing their use in our electrified vehicle battery systems. Compared to its predecessors, our third-generation hybrid battery system is expected to save up to 500,000 pounds of rare earth elements annually.

1. Including hexabromocyclododecane (HBCDD) and decabromodiphenyl ether (decaBDE).

2. The date after which a substance of concern cannot be used or imported into the EU without authorization from the European Chemicals Agency (ECHA).

Ensuring Occupant Health

Ford is working to provide healthy vehicle interiors and use information technology to improve occupant health and wellness.

Air Quality

We are aware that the properties that make nanoscale materials useful may also pose risks to people and the environment under specific conditions. Current research on the effects of nanoparticles on environment, human health and safety mostly focuses on exposure during manufacturing and processing but we want to prevent any unwanted consequences that might occur during the entire life cycle of nanomaterials under the influence of environmental factors (moisture, temperature, etc.) and mechanical actions (vibrations, abrasion, etc.). The Ford Plastics Research Group has developed guidelines to ensure that research involving nanotechnology is conducted in a safe and responsible manner, and that environmental considerations are incorporated into our technical innovations and product development. Our vehicle interior air quality specifications, which cover fogging, odor, substances of concern and air filtration, consider the air quality and allergen impacts of the materials and components in our vehicles. Under these standards, engineers test materials that come into direct contact with passengers for allergy issues, and many of our vehicles feature high-performance filters that keep out allergenic pollens. Having initially applied these specifications in our European vehicles, we are now phasing them in across other regions, starting with the United States.

In-Car Health and Wellness



We're exploring ways to use in-vehicle communication systems such as SYNC® to help drivers to monitor and maintain their own health and wellness. For example, the Allergy Alert® app enables drivers to check pollen and other health-risk conditions with simple voice commands. We are also collaborating with a variety of organizations to see how health and wellness can be addressed in the vehicle:

- We have started exploring how wearable devices, including smart watches and fitness bands, can be used to measure indicators of driver stress, such as heart rate, perspiration and skin temperature, to estimate driver workload
- We are engaging with medical companies (e.g. United Healthcare) and auto insurers (e.g. State Farm) to see whether monitoring in-vehicle driver wellness could result in lower insurance premiums
- We are actively partnering with the Henry Ford Health System on a health and wellness app challenge

We are also conducting research into whether wearable devices can assist with accident avoidance.

Reducing End-of-Life Impacts

Automobiles are some of the most highly recycled consumer products in the world. The majority of materials contained in vehicles – particularly metals, polymers and fluids – can be recovered at the end of their useful lives.

OUR PERFORMANCE

95%

of the materials in our vehicles (by weight) can be recovered, recycled or reused.

In theory, the materials in end-of-life vehicles (ELVs) are 95 percent recoverable. In practice, however, the cost of the energy and labor used to recover the final fractions manually often exceeds their value and the environmental benefits of doing so. We try to achieve the highest level of economically viable and environmentally sound recovery through the careful selection of materials, and by providing dismantlers with information on the materials used and the best methods for treatment.

Take-Back Schemes

We've long been at the forefront of providing cost-free take-back networks for ELVs. There are currently networks for Ford vehicles in 19 EU markets, and we participate in a further 10. In the United Kingdom, Ford was the first major manufacturer to establish a comprehensive plan that met the EU Directive, working with Cartakeback.com to create a network of 190 facilities.

Alternative End-of-Life Treatments

Addressing end-of-life issues associated with mercury in older vehicles, we helped to forge a collaboration among the U.S. Environmental Protection Agency, state authorities, dismantlers, steelmakers and environmental groups to recycle mercury switches. With more than 10,500 participants in the scheme, over 8.1 tons of mercury were recovered by the end of 2015. And to help prevent plastic, foam and other nonmetal materials, known as "automotive shredder residue" (ASR), from ending up in landfill, we support the development and implementation of post-shredder-residue treatment technologies, which make the actual recycling of ELVs more economically and ecologically viable.

Ford also co-sponsored a life cycle assessment that showed the environmental benefits of using ASR for energy recovery.

Product Quality and Customer Satisfaction

When customers purchase a new vehicle, they expect a high-quality product and an exceptional experience. That's why continually working to improve quality remains a top priority for all Ford employees.

Managing Product Development

Our product development process always starts with the customer: understanding who they are, how they live and what they value in a vehicle. Then we identify the technologies and innovations that will meet those evolving needs and expectations, and implement them in our product cycle plan. Engineers, designers and product marketing teams work together to finalize a vehicle concept and, once approved, it is brought to market using our Global Product Development System (GPDS), which combines the best production methods from across our global operations.

GPDS also provides common milestones and metrics to increase efficiency and quality. Each vehicle must meet specific competitive and performance targets at every milestone in its development, including criteria for fuel economy, emissions and substances of concern.

Our product quality vision is to achieve best-in-world quality and productivity by driving the disciplined execution of common processes and standards.

Our product quality mission is to deliver continuous quality and productivity improvements across all functions while delivering defect-free vehicles our customers want and value.

Exceeding Expectations

We work continually to improve the quality of our products, using our extensive global Quality Operating System (QOS) to develop and measure robust manufacturing processes. This helps ensure that our vehicles meet or exceed customer expectations at every stage of vehicle development and manufacture well into the future.

We begin designing-in quality years before a new model rolls off the assembly line. Informed by customer research, our engineers use a suite of high-tech design tools and virtual manufacturing technologies to define the right features and manufacturing processes. We also test vehicle prototypes extensively to ensure customers get a high-quality product.

But it doesn't end there. Even after a sale, we evaluate vehicle performance and use this information to continuously improve. We also gather feedback from customers using survey tools that evaluate our product quality, and track their satisfaction with its performance.

Tracking Progress on Quality

We monitor product quality through a combination of internal and external measurements that assess how we are doing and where we can improve. The Global Quality Research System (GQRS), which tracks customer satisfaction and "Things Gone Wrong," is our primary quality survey. It is implemented for us quarterly by the market research and consulting firm Ipsos RDA Group. We also subscribe to J.D. Power and Associates' annual Initial Quality Study, Vehicle Dependability Study, and Automotive Performance, Execution and Layout (APEAL) Study, and track warranty claims and costs internally.

As we continue to use the QOS, vehicle quality continues to improve around the world. Our latest data on "Things Gone Wrong" and customer satisfaction with sales and service shows that our quality has improved to best-ever levels in all operating regions during 2015.

Our culture of cooperation and continuous improvement means that we can address any quality and satisfaction concerns quickly and effectively, and learn from every quality issue.

Data Privacy and Security

The information that consumers provide enables us to deliver great products and a personalized experience. As stewards of customer data, we are absolutely committed to respecting customer privacy and using their data responsibly.

Anticipating and Meeting Consumer Needs

By acquiring and using data, we can harness the true potential of technology to anticipate and meet consumer wants and needs. This is why we are increasing funding for data science and analytics as the foundation of our Ford Smart Mobility plan. We are also exploring innovative ways to provide privacy choices to our customers.

Additionally, we are leveraging the technology of partners, such as cloud-based software leader Pivotal, to enable new consumer experiences and mobility services through FordPass®. One of the first programs to emerge from this partnership is a Dynamic Shuttle pilot service for employees at our Dearborn campus. This features smart ride-hailing technology that analyzes real-time data to maximize route efficiency and meet users' requests for ride-sharing in a timely manner.

Responsible Data Practices

We recognize that customers, employees and others care about the privacy and security of their data, and we take our responsibilities extremely seriously.

We have established a companywide governance infrastructure to drive a holistic approach to the stewardship of data. This includes having policies in place to ensure the continuing confidence of those who entrust us with their personal information. These policies require transparency, choice where appropriate, and responsible data use and security.

We are also a founding member of, and have a leadership role in, the Auto-ISAC (Information Sharing and Analysis Center). The focus of the ISAC, established by the 12 members of the Auto Alliance in 2015, is to gather, analyze and share information about cyber-related threats and vulnerabilities with member organizations.

- > [Data Analytics](#)
- > [Policy Letters and Directives](#)

Case Study:

BIG DATA DRIVE EXPERIMENT

The Big Data Drive Experiment, one of several projects seeking to understand consumer driving behaviors, is also putting our data stewardship principles to the test in a real-world scenario. More than 200 Ford employees have volunteered, allowing us to gather data about their driving from in-vehicle sensors. By applying big data analytics, researchers can learn more about how people actually use their vehicles and see patterns that can inform mobility solutions.

- > [VIDEO: Big Data Drive](#)

Vehicle Safety

Quality is critical to the safety of our customers and, therefore, to our responsibilities and success as a company. We are trusted to design and manufacture vehicles that achieve high levels of safety over a wide range of real-world conditions.

Our Approach



Safety is a fundamental aspect of quality. The foundation of our corporate safety policy, Policy Letter 7, states Ford's commitment to design and build vehicles that meet or exceed applicable laws and regulations, and to advance safety wherever practicable.

Our Quality Operating System continues to deliver high-quality, safe and secure vehicles. This process includes real-world safety data, driver behavior considerations, road infrastructure and environmental factors, regulatory safety requirements and voluntary industry agreements.

We conduct engineering analyses, computer simulations and crash testing to evaluate the performance of vehicles and components, using state-of-the-art crash-test facilities in Dearborn, Michigan; Merkenich, Germany; and Dunton, England. In Dearborn, we also have a motion-based driving simulator, called VIRTTEX (VIRtual Test Track EXperiment), that we use to help us research advanced driver assist features, human-machine interface (HMI) concepts, and other driving-related human factors topics such as drowsy driving and distracted driving.

As well as meeting or exceeding regulatory requirements, our processes, tools and facilities confirm that our vehicles align with our own stringent internal guidelines:

- **Safety Design Guidelines:** Our stringent internal engineering design guidelines exceed regulatory requirements and define additional real-world requirements that are not regulated
- **Public Domain Guidelines:** Ford-specified levels of performance for significant public domain tests, which are designed to protect and strengthen our brands

We regularly re-evaluate and update these internal guidelines as appropriate.

Public Domain Ratings

Public domain rating programs vary around the world, each having unique testing protocols and evaluation criteria. Among other consumer advocacy groups, organizations such as New Car Assessment Programs (NCAPs) and insurance-sponsored organizations that rate vehicles for safety exist globally.

Global Safety Public Domain Organizations



Due to the disparity of, and ongoing changes to, NCAPs around the world, it is increasingly more difficult to achieve the highest ratings, and a vehicle may achieve the highest rating in one region or program, but not in another. These inconsistencies pose additional challenges for global automotive companies like Ford, and may even require us to implement unique vehicle designs in different markets.

The NCAPs around the world, which have traditionally included vehicle crashworthiness ratings, are increasingly including pedestrian protection assessments and crash avoidance technology evaluations.

What We're Doing

Safety Technologies



The innovative driver assist technologies we are implementing today are making vehicles safer and more convenient.

> [Read more](#)

Encouraging Safer Driving



Through training programs and new technology, we're helping to make novice and experienced drivers safer, as well as protect passengers, pedestrians and other road users.

[Read more](#)

Safety Technologies

Sixty years ago, we became the first automaker to offer factory-installed safety belts, and our legacy of safety innovation endures to this day. We continue to roll out a range of technologies designed to enhance vehicle safety and help customers drive more safely.

The Ford F-150 is an Insurance Institute for Highway Safety's Top Safety Pick for SuperCrew and SuperCab configurations – the only large pickup to earn this recognition.

We continue to implement innovations that enhance vehicle safety. We are also working on vehicles that communicate with each other and with the world around them, and share learnings with colleagues who are working toward our vision of an integrated transportation ecosystem.

Ford views automotive safety holistically, and actively works this approach into all areas of our business, from vehicle design and manufacturing to operator behavior and the motor vehicle environment. As well as technologies designed to enhance the safety of our vehicles, we also seek to improve driver safety education through initiatives such as our Ford Driving Skills for Life program.

Vehicle Safety Highlights

Once again, in 2015, we received high marks and accolades for vehicle safety in a number of the industry's key third-party crash-testing programs. Our highlights include:

- For the 2016 model year, 16 Ford Motor Company vehicles earned the highest possible Overall Vehicle Score of five stars in the **New Car Assessment Program (NCAP)** for the U.S. National Highway Traffic Safety Administration (NHTSA). These five-star vehicles are the Ford Edge, Explorer, Expedition, F-150, Focus, Fusion, Fusion Energi, Mustang Coupe, Navigator, Taurus and Transit Connect, and the Lincoln MKS, MKT and MKX
- Twelve Ford vehicles now hold a maximum five-star **Euro NCAP** safety rating, two more than the next best manufacturer. These vehicles are the Ford B-MAX, C-MAX, Fiesta, Focus, Galaxy, Grand C-MAX, Kuga, Mondeo, Tourneo Connect, Transit Tourneo, Ranger and S-MAX
- Ford has an industry-leading total of seven **Euro NCAP Advanced Rewards**, for our Active City Stop, Driver Alert technologies, Emergency Assistance, Forward Alert, Lane-Keeping Alert, Lane-Keeping Aid and MyKey technologies

We have developed a wide range of technologies, and continue to support research in many areas, including:

- **Driver Assist and Collision Avoidance**
- **Occupant Protection**
- **Post-Crash Response**

Driver Assist and Collision Avoidance

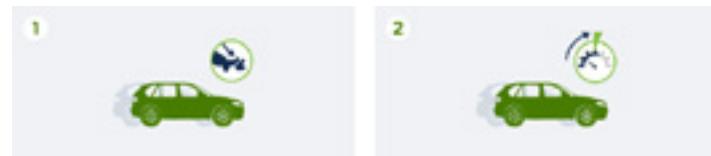
A variety of Ford technologies are available to help customers drive more safely and to alert them to a potential collision. These systems can also aid with routine driving tasks to reduce demands on the driver.

Current Technology

Our vehicles offer a range of driver assist features and semi-autonomous technologies that use radar, sonar and cameras to sense and interpret the environment. The technologies listed here are not available in all markets or in all vehicles.

Speed Assist

Adjustable Speed Limiter Device (ASLD)



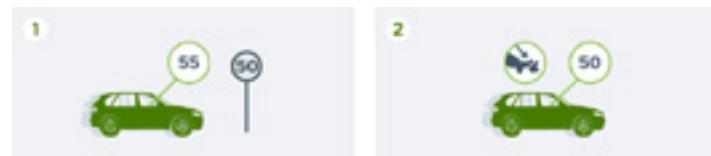
Allows the driver to set a speed limit that can't be exceeded by normal gas pedal operation. However, the driver can override the limit, by pressing the accelerator pedal beyond normal usage limits.

Traffic Sign Recognition



A camera recognizes speed limit signs; the driver is informed of the speed limit, and is also warned when that limit is exceeded. This technology currently recognizes signs that comply with the [Vienna Convention on Road Signs and Signals](#).

Intelligent Speed Assist



Combines ASLD with Traffic Sign Recognition to automatically adjust the set speed to the detected speed limit. Additionally, the driver can adjust the set speed manually and override the limitation (as described under ASLD, above).

Adaptive Cruise Control (ACC)

Helps drivers maintain a preset distance from the vehicle in front, using a radar that measures the gap and closing speed.

Braking and Collision Avoidance**Active City Stop**

Ford Active City Stop helps to avoid or to mitigate accidents at low speeds. A LiDAR sensor detects objects in front of the vehicle and if it detects a collision risk with a vehicle, the brakes are precharged. If the driver does not respond in time, the system automatically applies the vehicle's brakes and reduces engine torque.

Forward Collision Warning With Brake Support

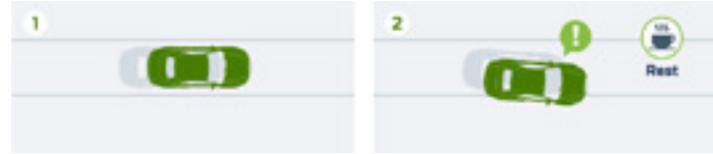
Uses radar, similar to ACC, to assess range and speed, and activates a visual and audible warning when the system detects a risk of collision with the vehicle in front. In addition, the brake system is precharged and brake assist sensitivity is increased to provide full responsiveness when the driver applies the brakes.

Pre-Collision Assist With Pedestrian Detection

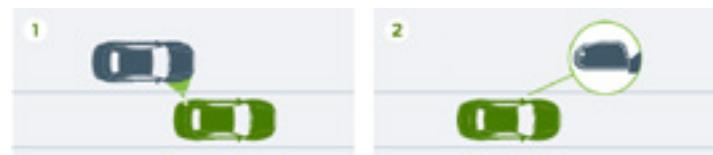
Uses a radar and a camera to scan the road and, if a collision risk with a vehicle or a pedestrian is detected, provides a warning to the driver. If the driver does not respond in time, the system can automatically apply up to full braking force to help reduce the severity of or even eliminate some frontal collisions.

Lane Management**Lane-Keeping System**

Using a forward-facing camera, the system warns the driver of unintentional lane departures. With Lane-Keeping Alert, the steering wheel vibrates when drivers stray from their lane, while Lane-Keeping Aid provides a mild steering input to encourage drivers to steer toward the center of the lane.

Driver Alert System

The same camera used for the lane-keeping system is continuously assessing the driver's lane-keeping performance to detect "vigilance level" and give warnings.

Vision and Visibility**Blind Spot Information System with Cross-Traffic Alert**

Uses radars mounted on the rear corners to help detect other vehicles within the blind spot zone, and alert the driver with an indicator in the sideview mirrors. When reversing, the radars help detect crossing vehicles and alert the driver with the indicators mentioned above accompanied by visible and audible warnings.

Rearview Camera

Transmits a rear-facing image when the driver selects reverse, making maneuvering while backing up or parallel parking safer and easier.

Advanced Front Lighting

This includes semi-automatic high beam control, rainlamps and adaptive headlamps with beams that move in the same direction as the steering wheel and provide more visibility when driving around a curve.

Parking**Active Park Assist**

The system uses ultrasonic sensors to assess the viability of potential parallel parking spots. When a suitable space is found, Active Park Assist steers the car into the space while the driver controls the gears, accelerator and brake.

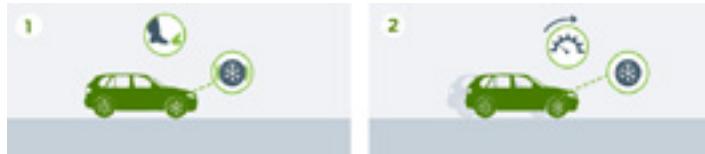
Enhanced Active Park Assist



Active Park Assist, which helps drivers with parallel parking, is now available with enhancements including Perpendicular Park Assist (PPA) and Park Out Assist (POA), which helps drivers back into a perpendicular spot as well as exit a parallel parking space.

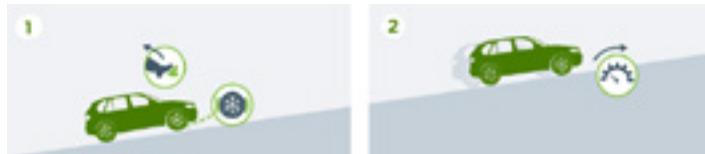
Other Technologies

Auto Hold



Saves the driver from having to press the brake pedal continuously to keep the vehicle stationary, and releases the brakes when the accelerator is applied.

Hill Start Assist



Helps the driver when starting on an uphill gradient by holding the brake while the driver moves their foot to the accelerator pedal.

Curve Control



Assists the driver with maintaining control over the vehicle when entering a curve too quickly. It reduces engine torque and increases brake pressure to help keep the vehicle under control and follow the intended path. The technology is designed to be effective on wet or dry surfaces, and is expected to be helpful when drivers are entering or exiting freeway ramps too quickly.

[› Lighting Innovations Based on Human Psychology](#)

Case Study:

2016 LINCOLN MKX

Completely redesigned for the first time since its debut 2007 model year, the 2016 Lincoln MKX is equipped with a number of advanced safety and driver assist technologies.

In addition to connecting to emergency services with a paired and connected cellphone in the event of an airbag deployment, the all-new MKX offers Pre-Collision Assist with Pedestrian Detection. It also comes with Adaptive Cruise Control, Lane-Keeping System, Blind Spot Information System® and features to provide awareness about cross-traffic at both the front and the rear of the vehicle.

To assist the driver further, the MKX is available with Auto Hold and Enhanced Active Parking Assist, which helps with both parallel and perpendicular parking, and with exiting awkward parking spaces.

What's Next?

We continue to take a thoughtful, informed approach to research into autonomous and connected vehicles through our long-term Ford Smart Mobility plan. To progress to this vision of the future, in which connected vehicles communicate with one another and with road infrastructure to potentially help avoid collisions and reduce congestion, we are conducting research with a variety of public, private and academic entities:

- We are collaborating with the University of Michigan, Stanford University, Automated Driving Applications and Technologies (AdaptIVe) and others on projects to test driver assist technologies and to address the technical challenges surrounding automated driving
- Through the Crash Avoidance Metrics Partnership (CAMP), we are co-leading a group of eight automakers that NHTSA has contracted to work on vehicle-to-vehicle safety communication systems.
- CAMP is also working to develop a pilot Security Credential Management System (SCMS), a critical enabler for privacy and security in the deployment of a connected transportation environment
- We are also leading a separate consortium, working with the Federal Highway Administration to research vehicle-to-infrastructure applications
- Ford was a lead contributor to the CAMP Automated Vehicle Research report, contracted by NHTSA, which introduces safety principles based on a comprehensive safety analysis of driving automation levels. This work could be used as a reference for the future development of objective tests for driving automation systems as this technology matures
- The Vehicle Infrastructure Integration Consortium (VIIC), a group of 10 automakers and the U.S. Department of Transportation, is working on the practical and policy challenges of connected vehicles, such as security and privacy, the allocation of risk and liability, and the funding of necessary infrastructure
- Ford, along with the members of the Alliance of Automobile Manufacturers (Auto Alliance) and the Association of Global Automakers (Global Automakers), and in conjunction with the Auto-ISAC, has agreed to develop Automotive Cyber Security Best Practices. These are focused on vehicle design measures, development processes and response requirements for light-duty vehicles

Case Study:

WEARABLE TECHNOLOGY AND DRIVER SAFETY RESEARCH

As consumers increasingly use wearable devices such as smart watches and fitness trackers, we're exploring potential applications that link health data to driver assist features. Scientists and engineers at our new Automotive Wearables Experience laboratory in Dearborn, Michigan, are looking at whether driver assist features, such as lane-keeping and blind spot information, could be informed of the driver's physical condition, particularly when they are stressed or tired, by a smart watch. Read more about our new [wearables research laboratory](#).

We are also looking into whether wearable devices can assist with research into in-vehicle driver health and wellness.

What's Next?

Ford Motor Company collaborates with other automakers on precompetitive projects to enhance the safety of the driving experience. We work with General Motors and Fiat Chrysler Automobiles U.S. through the various safety-related working groups and committees of the U.S. Council for Automotive Research (USCAR). We also collaborate with other automotive manufacturers through the Alliance of Automobile Manufacturers (Auto Alliance), the Society of Automotive Engineers (SAE) International and the International Organization for Standardization (ISO). Many results from these joint projects are published in peer-reviewed journals and other scientific publications.

Recent research into occupant protection includes:

- Utilizing real-world crash data and developing computer models that can estimate the effects of demographic trends (e.g. occupant age and weight) and vehicle characteristics (e.g. size and weight) on future safety trends
- Developing and using computer models and anthropomorphic test devices (ATDs), or "crash test dummies," that reflect changing global demographics to investigate the specific needs of elderly and obese occupants, and to research possible countermeasures
- Working with industry to develop and enhance the repeatability, reproducibility, biofidelity and durability of next-generation ATDs – including two mid-sized ATDs for testing front and side impact – so that they more closely simulate the responses of human occupants in crashes
- Ensuring emerging alternative fuel technology systems perform as intended during a vehicle crash

We also collaborate with university partners in many areas through our Strategic Alliance partner schools¹, our Alliance Framework partners² and by awarding grants through our University Research Program around the globe.

1. University of Michigan, Massachusetts Institute of Technology, Stanford University and Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen University.
2. Northwestern, Ohio State and Michigan State.

Occupant Protection

Many factors influence a vehicle's crash performance, including its ability to absorb energy on impact and the use of passive safety equipment such as airbags. Our commitment to advancing vehicle safety includes the research and development of technologies that further protect occupants and other vulnerable road users in a variety of situations.

Current Technology

Safety belts remain the most important vehicle safety technology available. As well as traditional safety belts, Ford offers rear inflatable safety belts, which incorporate airbag technology to help reduce the risk of head, neck and chest injuries for rear passengers.

We have also patented technology that allows airbags to be placed in other locations inside the vehicle. The all-new inflatable airbag restraint design that was introduced in the 2015 Ford Mustang has now been implemented on the Ford Edge and Lincoln MKX. This technology provides knee airbag protection for the front passenger while significantly reducing the size and weight of the airbag system. Other applications using this technology are now being considered.

We are also using more ultra-high-strength steels, plastics and composites, as well as aluminum, to design vehicle structures that offer equivalent or better crash performance while reducing vehicle weight and improving fuel economy.

Post-Crash Response

Post-crash notification technology assists occupants in summoning assistance in an urgent situation through in-vehicle emergency call systems and can give first responders potentially life-saving information.

Current Technology**Automated Emergency Calls**

Vehicles equipped with SYNC® in-car connectivity, which enables drivers to use cellphones and MP3 players through voice commands, also come with a call-for-help system called SYNC 911 Assist (in the United States) or Emergency Assistance eCall (in other markets).

In the event of a severe crash where an airbag is deployed or the fuel pump is shut off, SYNC 911 Assist will make an emergency call by using a paired/connected cellphone. This call is initiated automatically; however, a vehicle occupant can choose to cancel the call.

In addition to providing the emergency operator with a GPS location, SYNC Enhanced 911 Assist can also provide data such as impact velocity, crash type (i.e. front, side, rear or rollover), whether one or more impacts occurred, safety belt usage for seating positions with belt reminders, and whether airbags were deployed. This information could help emergency responders understand the severity of the incident and dispatch the most appropriate response. SYNC Enhanced 911 Assist is currently available on select vehicles in the United States and China, and may expand to potentially include Brazil in the near future.

> [VIDEO: Ford 911 Assist: Peace of Mind](#)

Alerting Passers-By

The SOS-Post Crash Alert System™, fitted as standard on most Ford and Lincoln vehicles, is designed to alert passers-by and first responders to a vehicle's location. In the event of airbag or safety belt pre-tensioner activation, it automatically starts the hazard lights and, except in European vehicles, sounds the horn. The system also sends a signal to unlock the vehicle doors to aid exit or access to first responders.

Ford conducts a significant amount of research into driver distraction, both on our own and through partnerships with universities and organizations such as the Alliance of Automobile Manufacturers (Auto Alliance). We do this to improve our understanding of how to make driving safer for everyone.

For example, previous naturalistic driving studies have demonstrated the importance of having drivers keep their hands on the wheel and their eyes on the road. The results of these and other studies have helped us develop driver assist technologies such as [Forward Collision Warning](#) and [hands-free calling through SYNC®](#).

Ford MyKey®

Ford supports and contributes to the Automotive Coalition for Traffic Safety's (ACTS's) participation in DADSS (Driver Alcohol Detection System for Safety) research, aimed at developing a non-intrusive and robust system to support NHTSA's initiative to reduce drunk driving.

The Ford MyKey® system is designed to help parents encourage their teenagers to drive more safely. Available in more than 9 million Ford and Lincoln vehicles around the world, the programmable key can:

- Limit the vehicle's top speed and provide speed-limit alert chimes
- Use a do not disturb feature to redirect incoming phone calls and text messages
- Activate Belt-Minder® to chime every minute and mute the audio system until both front occupants are buckled
- Limit the maximum audio system volume to help with hearing nearby first responders
- Prevent safety and driver assist systems from being disabled

Encouraging Safer Driving

Driver behavior is a key contributing factor in many vehicle crashes. We have developed and support an array of programs and technologies that encourage safer behavior, for experienced and novice drivers alike.

Ford Driving Skills for Life

OUR PERFORMANCE

Ford Driving Skills for Life has trained drivers to be safer in

29 countries,

has given more than

165,000 people

behind-the-wheel training and has trained more than

650,000 people

through The Academy online training modules.

Ford Driving Skills for Life (Ford DSFL), our free driver education program, is the centerpiece of our commitment to help new drivers improve their skills. Ford DSFL was established in 2003 by Ford Fund, in partnership with the Governors Highway Safety Association and a panel of experts, to teach newly licensed teen drivers' skills for safe driving. [The Ford DSFL website](#) includes a range of free resources for novice drivers, including an interactive training center called The Academy.

We now offer the program in the United States, Europe and Asia Pacific and, as we expand the program, we adapt it to the circumstances in different regions. Read more about [Ford DSFL](#) in the Communities section.

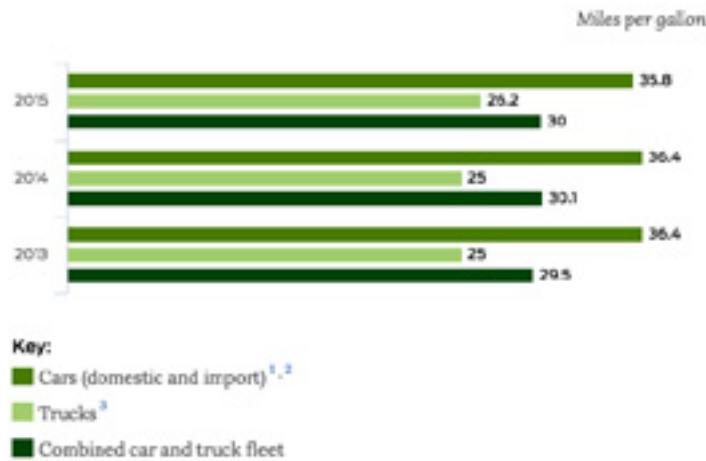
Driver Distraction



Data

Vehicle Fuel Economy and CO₂ Emissions

A. Ford U.S. Corporate Average Fuel Economy



Third-party rating

Data notes and analysis:

- Domestic: Includes 1.0 mpg FFV credit.
- Import: No FFVs.
- Includes 1.0 mpg FFV credit.

The average fuel economy of our U.S. car fleet declined and U.S. truck fleet increased compared to 2014. In addition, our combined corporate average fuel economy decreased by about 0.1 mpg due to changes in the volume mix. Our combined fleet CO₂ emissions improved by 10 percent compared to 2009.

Also see:

- > [Improving Fuel Economy](#)

B. Ford U.S. CO₂ Tailpipe Emissions per Vehicle (Combined Car and Truck Fleet Average CO₂ Emissions)



Reported to regulatory authorities ([Environmental Protection Agency](#))

Data notes and analysis:

Improvement is reflected in decreasing grams per mile for the combined fleet. This is the fourth year that the greenhouse gas (GHG) data has come directly from Ford's official GHG report. Under the One National Program regulation, 2012 MY was the first year where a separate GHG compliance report was required, in addition to the annual CAFE report. The GHG value includes FFV credits, but does not include credits/debits for air conditioning or off-cycle technologies or CH₄/N₂O compliance.

Also see:

- > [Greener Products](#)

C. Ford Europe CO₂ Tailpipe Emissions per Passenger Vehicle



Key:

- █ Phase in of percent best-CO₂-performing vehicles
- █ 100 percent of vehicles

Data notes and analysis:

NA = Not available.

- Only 80 percent of the best-CO₂-performing fleet vehicles are accounted for in the "phase in" data as part of the European Commission's phase in plan.

Improvement is reflected in decreasing grams per kilometer. "Phase in" data shows an increase in grams per kilometer from 2013 to 2014 because it includes a higher percentage of the vehicle fleet as directed by the European Commission's phase in plan and, therefore, includes more vehicles with lower CO₂ performance than were included in the 2013 "phase in" data. These figures are based on production data for European markets. European and U.S. fleet CO₂ emissions are not directly comparable because they are calculated in different units and because they are assessed based on different drive cycles.

Also see:

- > [Greener Products](#)

D. Ford Europe CO₂ Tailpipe Emissions per Light Commercial Vehicle



Data notes and analysis:

- 2014 was the start of official CO₂ monitoring for light commercial vehicles (N1). Between 2014 and 2017, the phase in rule applied by increasing fleet coverage, starting with lowest CO₂ vehicles; starting at 70 percent in 2014, 75 percent in 2015, 80 percent in 2016.
- For 2013, final official data from the European Commission (EC) was published in October 2013 for light commercial vehicles (vehicle category N1). For 2013, 70 percent of the best-CO₂-performing light commercial vehicles are accounted for in this data as part of the EC's phase in plan.

Improvement is reflected in decreasing grams per kilometer. These figures are based on production data for European markets. European and U.S. fleet CO₂ emissions are not directly comparable because they are calculated in different units and because they are assessed based on different drive cycles.

Also see:

> [Greener Products](#)

E. Ford Switzerland CO₂ Tailpipe Emissions per Passenger Vehicle



Key:

■ Phase in of percent best-CO₂-performing vehicles

■ 100 percent of vehicles

Reported to regulatory authorities ([Swiss Federal Office of Energy](#))

Data notes and analysis:

NA = Not available.

- For 2014, 80 percent of the best-CO₂-performing fleet vehicles are accounted for in this data, as part of the Swiss phase in plan.
- For 2013, 75 percent of the best-CO₂-performing fleet vehicles are accounted for in this data, as part of the Swiss phase in plan.

Improvement is reflected in decreasing grams per kilometer. "Phase in" data shows an increase in grams per kilometer from 2013 to 2014 because it includes a higher percentage of the vehicle fleet as directed by the European Commission's phase in plan and, therefore, includes more vehicles with lower CO₂ performance than were included in the 2013 "phase in" data. CO₂ emissions for 100 percent of the vehicle fleet increased from 2013 to 2014 due to an increased percentage of non-diesel vehicles in the overall fleet, an increase in automatic vehicles over manual vehicles and an increase in relatively higher CO₂ emission four-wheel-drive vehicles. These figures are based on production data for European markets. European and U.S. fleet CO₂ emissions are not directly comparable because they are calculated in different units and because they are assessed based on different drive cycles.

Also see:

> [Greener Products](#)

Non-CO₂ Tailpipe Emissions

A. Ford U.S. Average NOx Emissions



Key:

■ Passenger cars

■ All light duty

Reported to regulatory authorities ([Environmental Protection Agency](#)).

Also see:

> [Non-CO₂ Emissions](#)

B. Ford U.S. Average NMOC Emissions



Key:

■ Passenger cars

■ All light duty

Reported to regulatory authorities ([Environmental Protection Agency](#)).

Data notes and analysis:

NMOC = Non-methane organic gases.

Also see:

> [Non-CO₂ Emissions](#)

C. Ford U.S. Average Vehicle Emissions



Key:

■ Passenger cars

■ All light duty

Reported to regulatory authorities ([Environmental Protection Agency](#)).

Data notes and analysis:

Average vehicle emissions are the smog-forming pollutants from vehicle tailpipes, characterized as the sum of [(NMOC + NOx emissions) x volume] for all products in the fleet.

Also see:

> [Non-CO₂ Emissions](#)

Vehicle Safety

A. Percent of Nameplates Achieving 4-Star or Better NCAP Overall Vehicle Score (OVS)

Data is for the model year noted.



Key:

- █ Ford
- █ Toyota
- █ GM

Third-party rated ([NHTSA](#)).

Data notes and analysis:

- Transit Medium Roof earned a three-star rating.

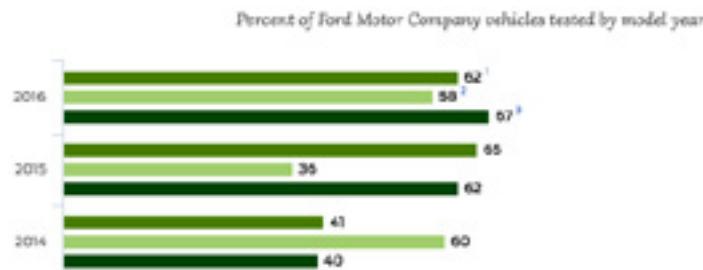
For detailed information on the NCAP system, see [www.safercar.gov](#), and in particular [www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf](#).

Also see:

> [Vehicle Safety](#)

B. Percent of Nameplates Achieving 5-Star NCAP Overall Vehicle Score (OVS)

Data is for the model year noted.



Key:

- █ Ford
- █ Toyota
- █ GM

Third-party rated ([NHTSA](#)).

Data notes and analysis:

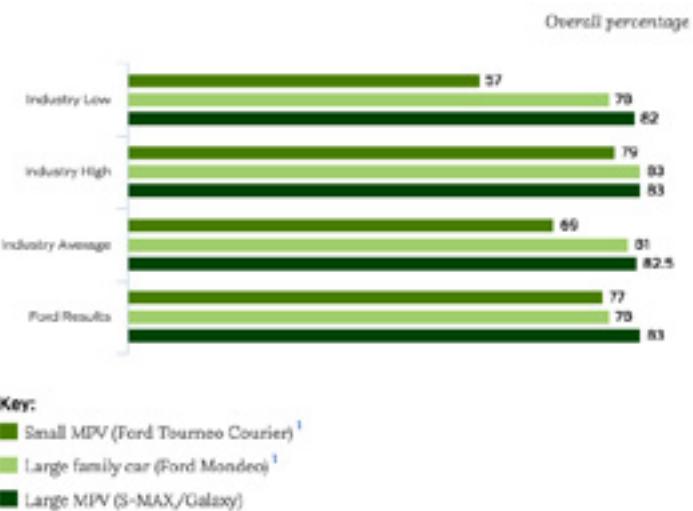
- This data includes Ford and Lincoln.
- This data does not include Lexus (only Toyota).
- This data includes Buick, Cadillac, Chevrolet and GMC.

National Highway Traffic Safety Administration (NHTSA) does not test each new vehicle model every year, but a sample of new vehicles predicted to have high sales volumes or that have been structurally redesigned. It is therefore difficult to compare results to previous model years, particularly when many new models are launched. Even though our vehicles are safer than ever, our ratings are not necessarily comparable to previous years. For more detailed information, see [www.safercar.gov](#) and [www.safercar.gov/staticfiles/toolkit/pdfs/faq.pdf](#)

Also see:

> [Vehicle Safety](#)

C. Euro NCAP (2015 Ratings)



Third-party rated ([Euro NCAP](#)).

Data notes and analysis:

- The Ford model was tested in 2014 only (not in 2015). Euro NCAP combines all assessed criteria into an overall "fulfillment percentage," ranging from 0 percent to 100 percent (overall threshold). Star ratings are dependent on the fulfillment percentage or the star level threshold of each individual assessment box (adult, child, pedestrian and safety assist). The worst-case threshold determines the overall rating. In 2014, the following thresholds were required for a five-star rating: Adult 80 percent, child 75 percent, pedestrian 60 percent, safety assist 65 percent and overall 75 percent. In addition to the star ratings, seven Ford vehicles have received the "Euro NCAP Advanced Award" for new technologies so far. For more information, visit [www.euroncap.com](#).

Also see:

> [Vehicle Safety](#)

D. U.S. Safety Recalls

Number of safety recalls



Number of units



Reported to regulatory authorities ([NHTSA](#)).

Data notes and analysis:

- Ford Action 14B04 (NHTSA Action Number of 14V343000) was superseded by 16S03 (NHTSA Action Number of 16V036000).

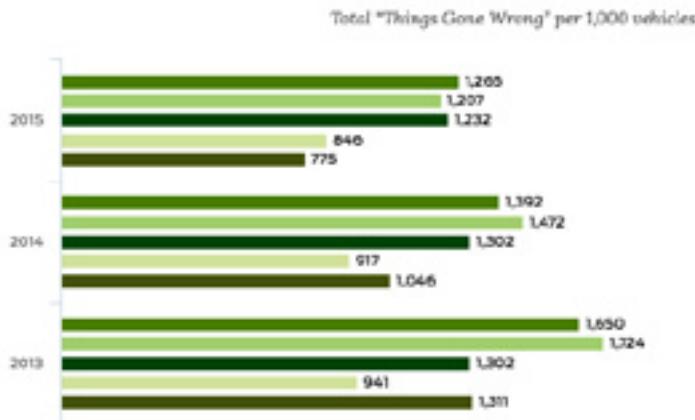
The increase in safety recalls from 2013 to 2014 was due in part to the U.S. National Highway Traffic Safety Administration (NHTSA) expanding its definition of safety defects, which has led to the highest number of safety recalls in the United States across all auto manufacturers.

Also see:

> [Vehicle Safety](#)

Product Quality and Customer Satisfaction

A. GQRS "Things Gone Wrong" (TGW) (3 Months in Service) by Region


Key:

- North America
- South America
- Europe
- Asia Pacific
- Middle East & Africa

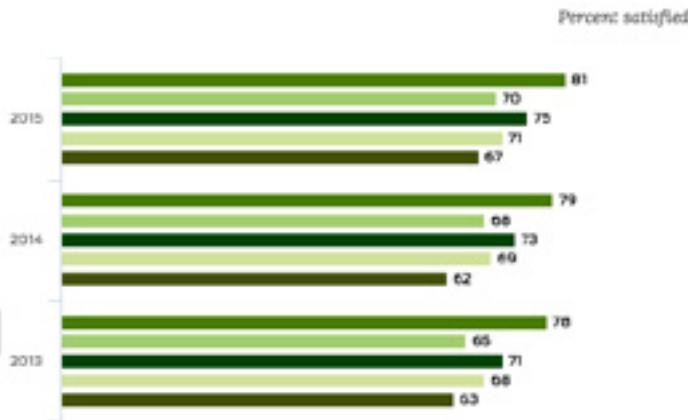
Third-party rating

Data notes and analysis: "Things Gone Wrong" data is based on model years.

Also see:

> [Product Quality and Customer Satisfaction](#)

B. GQRS Customer Satisfaction (3 Months in Service) by Region


Key:

- North America
- South America
- Europe
- Asia Pacific
- Middle East & Africa

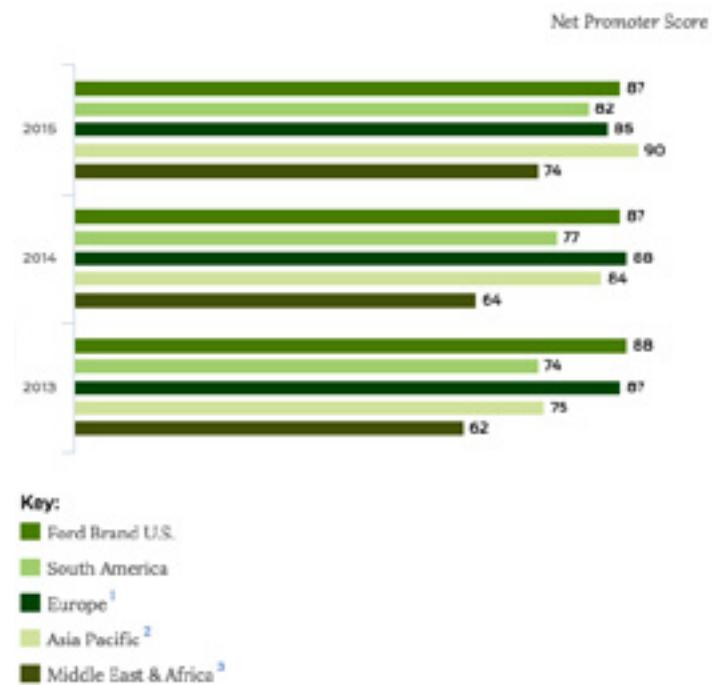
Third-party rating

Data notes and analysis: Customer satisfaction data is based on model years.

Also see:

> [Product Quality and Customer Satisfaction](#)

C. Sales Satisfaction With Dealer/Retailer


Data notes and analysis:

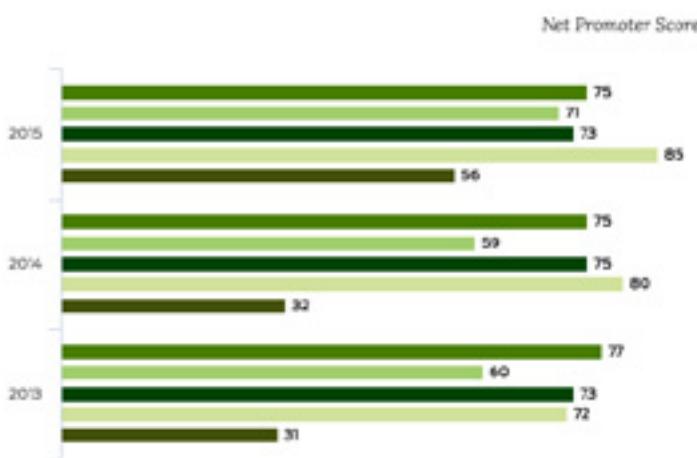
2015 data for sales and service satisfaction is not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation is based on a consistent methodology across all Ford global markets. This metric is comprised of a six-question index using key performance indicators for each of sales and service. The reported metrics are based on customer ratings using a five-point rating scale, and are summarized using a Net Promoter calculation.

Sales satisfaction with dealer/retailer data is based on calendar years.

1. European sales and service satisfaction with dealers and retailers are Net Promoter Scores based on 22 European markets, including Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Spain, Sweden, Switzerland, Turkey and the United Kingdom.
2. We initiated the sales satisfaction with dealer/retailer in our Asia Pacific Africa region in 2010. From 2010 to 2013 this data includes 10 Asia Pacific markets (Australia, China CAF, India, Indonesia, Japan, New Zealand, Philippines, Taiwan, Thailandand Vietnam) and South Africa. In 2014, South Africa data was removed as part of the new regional organization. Beginning in 2015, the Asia Pacific data will include the 10 Asia Pacific markets plus Korea, Malaysiaand 18 emerging Asia Pacific markets.
3. For 2011 to 2013, Middle East sales and service satisfaction data is based on the following countries: Saudi Arabia, Kuwait, UAE, Oman, Bahrain and Qatar. In 2014, we added Jordan, Iraq and Lebanon to the survey.

Also see:

> [Product Quality and Customer Satisfaction](#)

D. Service Satisfaction With Dealer/Retailer**Key:**

- █ Ford Brand U.S.
- █ South America
- █ Europe¹
- █ Asia Pacific²
- █ Middle East & Africa³

Data notes and analysis:

2015 data for sales and service satisfaction is not directly comparable to prior years due to a change in methodology. The Ford Customer Experience performance calculation is based on a consistent methodology across all Ford global markets. This metric is comprised of a six-question index using key performance indicators for each of sales and service. The reported metrics are based on customer ratings using a five-point rating scale, and are summarized using a Net Promoter calculation.

Sales satisfaction with dealer/retailer data is based on calendar years.

- European sales and service satisfaction with dealers and retailers are Net Promoter Scores based on 22 European markets, including Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Spain, Sweden, Switzerland, Turkey and the United Kingdom.
- We initiated the sales satisfaction with dealer/retailer in our Asia Pacific Africa region in 2010. From 2010 to 2013 this data includes 10 Asia Pacific markets (Australia, China CAF, India, Indonesia, Japan, New Zealand, Philippines, Taiwan, Thailand and Vietnam) and South Africa. In 2014, South Africa data was removed as part of the new regional organization. Beginning in 2015, the Asia Pacific data will include the 10 Asia Pacific markets plus Korea, Malaysia and 18 emerging Asia Pacific markets.
- For 2011 to 2013, Middle East sales and service satisfaction data is based on the following countries: Saudi Arabia, Kuwait, UAE, Oman, Bahrain and Qatar. In 2014, we added Jordan, Iraq and Lebanon to the survey.

Also see:

- > [Product Quality and Customer Satisfaction](#)

E. First-Time Ford Buyers (Owners Who Acquired a New Vehicle for the First Time)**Also see:**

- > [Product Quality and Customer Satisfaction](#)

F. Owner Loyalty (Customers Disposing of a Ford Motor Company Product and Acquiring Another)**Also see:**

- > [Product Quality and Customer Satisfaction](#)

OPERATIONS

Minimizing the impacts of our operations and working toward long-term sustainability.

“Ford’s manufacturing environmental strategy is embedded in our manufacturing business processes, enabling us to reduce the overall environmental impact of our manufacturing operations while opening new plants and increasing production.”

Bruce Hettle
Group Vice President, Manufacturing and Labor Affairs

Greening Our Operations

Effectively managing the use of water, moving to low-carbon energy sources and avoiding waste are increasingly important to developed and emerging economies alike; we must play our part by ensuring that our operations are as energy efficient as possible and have a lower impact overall.

Doing Our Part to Combat Climate Change

Addressing the risks and effects of global warming is of paramount importance to Ford, and it's not just in our manufacturing facilities where we are working to reduce our footprint.

Developing more fuel-efficient vehicles, driving change with our suppliers through our Partnership for a Cleaner Environment program, promoting eco-driving with consumers and implementing our Ford Smart Mobility plan are equally important.

Our Strategy

Ford's strategy is based on the idea of climate stabilization, or doing our part to stabilize carbon dioxide (CO₂) emissions in the atmosphere at 450 parts per million. This is the level that many scientists, businesses and government agencies have concluded may help to forestall or substantially delay the most serious consequences of climate change.

- › [Climate Change Strategy](#)
- › [Water Strategy](#)
- › [Our Greenhouse Gas Footprint](#)
- › [Water Use in the Vehicle Life Cycle](#)

Facility Greenhouse Gas Emissions

In our facilities, direct greenhouse gas (GHG) emissions arise from the energy we produce on-site, while indirect emissions are associated with purchased electricity, steam and heat. Although our facility footprint is small compared to the level of GHG emissions arising from vehicles on the road, we are fully focused on ways to reduce it further.

- › [Our Value Chain Impacts](#)

IN THIS SECTION

- [Greening Our Operations](#)
- [Operational Energy and GHG Emissions](#)
- [Water Use](#)
- [Waste Reduction](#)
- [Compliance and Remediation](#)
- [Data](#)

GHG Emissions Reporting and Trading

Our participation in reporting, emissions-reduction and trading schemes is important to Ford's approach. We support mandatory and voluntary reporting globally (including an annual submission through the CDP), as well as emissions trading efforts.

We ensure compliance with relevant national requirements including U.S. Environmental Protection Agency (EPA) reporting, the EU Emissions Trading System, the U.K. Carbon Reduction Commitment and the Interim Measures of Carbon Emissions Trading Rights system in Chongqing, China.

Investing in Our Facilities

We invest significantly to create efficient and flexible manufacturing operations. These are the bedrock of Ford's automotive business, helping us to deliver product excellence, quality and safety. Developing highly efficient processes and being smarter and more thoughtful about how we use energy and natural resources also help us drive environmental improvements.

INVESTMENTS IN OUR MANUFACTURING AND ASSEMBLY OPERATIONS, 2015

\$2.5 billion

investment in Chihuahua Engine Plant and Guanajuato Transmission Plant in Mexico.

Completion of

\$2.6 billion

investment in our manufacturing operations in Valencia, Spain, transforming it into one of the world's most advanced, flexible and productive auto plants.

\$220 million

investment in our Argentina operations.

\$168 million

investment in our U.S. Ohio Assembly Plant.

› [Building World-Class Vehicles in China and India](#)

› [Expanding Operations in Africa](#)

Case Study:**THE FORD PRODUCTION SYSTEM (FPS) –
A JOURNEY TO LEAN**

The FPS is Ford's standardized production system that is designed to deliver high levels of manufacturing efficiency, safety and quality. It underpins our sustainability goals and supports our ultimate objective to become best in the world, with zero injuries, zero defects and 100 percent flow.

Since launching the FPS in 2011, we have been implementing much of the physical infrastructure at Ford plants across the world. Our focus now is on maturing the processes, building a deeper understanding of the standards and using those standards to identify and eliminate waste.

It's what we call our journey to lean – optimizing the flow of production and materials to get our product to the customer as quickly as possible, with maximum efficiency in energy and resource use.

To deliver this, we have launched the Global Operations Leadership Development (GOLD) program at Ford plants throughout the world. The five-day program is designed to provide skills to leadership so they can drive correct behaviors through teaching, coaching, confirming and problem solving – all directed toward following the standards for FPS managers from plants in South America and Europe have already participated in the program.

Delivering Our Goals

In all our key impact areas, we drive progress in decarbonizing and increasing the sustainability of our operations through a set of global goals.

[› Our Goals and Progress](#)

**Operational Energy and
Greenhouse Gas Emissions**

Our energy strategy centers on maximizing efficiency and reducing energy waste to achieve a corresponding improvement in greenhouse gas (GHG) emissions. Alongside these efforts, we look for opportunities to reduce our footprint through renewable energy.

Our Approach

The actions we have taken include investing at global and project levels, improving manufacturing processes and providing support through a dedicated energy team.

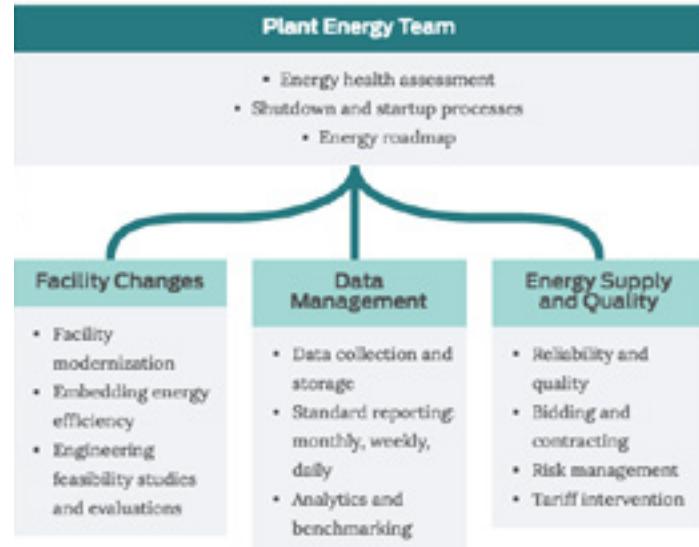
Our Energy Management Operating System (EMOS)

Ford's comprehensive EMOS is a standardized, proactive and disciplined operating system that drives reductions in energy consumption per vehicle produced. It focuses on:

- Innovation in manufacturing processes
- New approaches and standards for facility design
- The development of a culture of sustainability and efficiency

How Our EMOS Works

Our EMOS drives continuous improvement through facility changes, data management and energy supply and quality, supported by the plant's energy team.

**Our Performance****GHG Emissions****OUR PERFORMANCE****27% reduction**

in manufacturing CO₂ emissions per vehicle produced, 2010 to 2015.

[› DATA: Vehicle Fuel Economy and CO₂ Emissions](#)

Our global goal is a 30 percent reduction in GHG emissions per vehicle produced between 2010 and 2025.

We are on track to meet this goal. As of 2015, we have achieved a 27 percent reduction from 2010. Total CO₂ emissions increased from 2014 to 2015, owing to the new plants in Asia Pacific coming on line, but we have reduced our per vehicle emissions.

Average Energy Consumption

We reached an important milestone in 2015 when we met our global goal to reduce energy consumption per vehicle by 25 percent compared to 2011.

Based on 6 million vehicles, our 25 percent energy saving per vehicle produced equals 1.3 million metric ton of GHG annually – or the GHG saved in one year by 660 MW of wind capacity.

Energy Efficiency in Our Regions

In 2008, Ford became the first company in China to voluntarily share its GHG emissions. We have continued to drive our Blueprint for Sustainability in the region with a \$4.3 million investment in LED lighting in manufacturing facilities.

[› ASIA PACIFIC: Energy-efficient lighting in our plants in Asia](#)

Water Use

Water is far more than an environmental concern. At Ford, we recognize the human right to clean, affordable drinking water and adequate, accessible sanitation, and focus on responsible water stewardship in our operations.

Our Approach

Ford's water strategy aligns with the six core elements of the CEO Water Mandate to help guide us toward a position of industry leadership.

Since our earliest focus on reducing water impacts (we began to set targets as far back as 2000 as part of our Global Water Management Initiative), our efforts around water have evolved.

We have moved beyond merely reducing the water footprint of our own facilities to working more holistically outside our corporate walls, addressing water concerns in our supply chain and our broader communities.

Our Performance

OUR PERFORMANCE

30% reduction

in water use per vehicle produced, 2009 to 2013.

› [DATA: Global Water Use per Vehicle Produced](#)

In 2013 – two years ahead of schedule – we met our global goal to reduce water use per vehicle produced by 30 percent compared to 2009.

We therefore set a new goal to reduce water use by a further 2 percent in 2015. We exceeded this with a reduction of 5 percent.

This year, we have continued to make progress in reviewing our water strategy to ensure it is aligned with the global and company context.

We also have made progress in setting a new long-term reduction goal. These are ongoing and we will publish details in our 2016/17 Sustainability Report.

Case Study:

BENCHMARKING OUR WATER PERFORMANCE

Ford is the only North American company to earn the CDP "A" grade for its disclosure and performance. More than 400 companies were considered for CDP recognition, with eight ultimately receiving recognition. CDP is the world's only global environmental disclosure agency.

"Access to clean, affordable drinking water is a basic human right. We have worked diligently to set goals to reduce our water use while introducing innovative manufacturing technologies to help us achieve these goals. We are pleased CDP is recognizing Ford as a sustainability and water conservation leader, reflected in the top grade we have received for our work on water issues."

Andrew Hobbs

Global Director, Environmental Quality Office, Ford

Waste Reduction

Ford has a five-year global waste-reduction plan, which details how the company will lessen its environmental impact.

Our Approach

Our Five Key Actions for Waste Reduction

1. Continue investing in new technologies and programs that minimize waste
2. Standardize how waste is tracked and sorted at each point to make recycling and reuse easier
3. Identify the five largest-volume waste sources of waste-to-landfill at each facility
4. Partner with suppliers to increase the use of eco-friendly packaging
5. Enable local plants to effect waste management change

Current Waste Mix

- Wastewater sludge
- Recovered paint solids
- Packaging waste
- Used oils and waste solvent
- Grinding swarf (metallic particles, abrasives and oils)
- Other wastes

Ford has reduced waste to landfill per vehicle produced by

54%

from 2011 to 2015.

Our Performance

OUR PERFORMANCE

44% reduction

in the amount of waste sent to landfill, 2011 to 2015.

63 ZWTLF facilities

including all our Canadian and Mexican manufacturing plants.

› [DATA: Waste](#)

Our global goal is to reduce waste to landfill by 40 percent per vehicle produced between 2011 and 2016. As of 2015, we have achieved a reduction of 54 percent.

In 2015, Ford facilities globally sent approximately 35,000 metric tons of waste to landfill – a decrease of 44 percent from 2011.

Targeting Zero Waste to Landfill

A key factor in our approach is to increase the number of plants and facilities achieving zero waste to landfill (ZWTLF).

We have been extending this effort to research and office campuses more recently, including our Research and Engineering Center in Dearborn, Michigan, where in one year, the measures we took to save paper equaled well over 10,000 trees.

Our U.S. and Canadian headquarters also send refuse to waste-to-energy facilities, and site managers now use more environmentally sustainable packaging and food containers in cafeterias.

In 2015, six manufacturing facilities and 29 non-manufacturing facilities achieved ZWTLF status.

› [NORTH AMERICA: Waste reduction initiatives at our global facilities](#)

Case Study:

RESOURCE EFFICIENCY, WASTE REDUCTION AND THE CIRCULAR ECONOMY



Ford's work in closed-loop manufacturing processes using aluminum isn't only in line with what consumers increasingly expect of corporations, it makes financial and environmental sense also.

Aluminum is strong, lighter than steel and also highly recyclable – an attribute we have put to use at our Dearborn manufacturing facility where the Ford F-150 truck is made. To maximize the recycling potential was no easy undertaking and required a truly closed loop to be built, recreating the same automotive sheet again and again and again. Read about our partnership with [aluminum supplier Novelis](#) and the [development of aluminum alloys with Alcoa](#).

"Companies can have the most impact on reducing waste."

80% of adults globally agree¹

"I tend to favor products that are made from recyclable content versus those that aren't."

82% of adults in China agree, along with 62% in the United States and 55% in the United Kingdom¹

1. Source: BAV Consulting, Global Survey 2015, cited in Ford Consumer Trends 2016.

Compliance and Remediation

Compliance

Manufacturing Plants' Notices of Violation

Ford received nine notices of violation (NOVs) from government agencies in 2015: five in the United States, one in Mexico, one in Thailand and two in China. The issuance of an NOV is an allegation of noncompliance with anything from a minor paperwork requirement to a permit limit, and does not mean that the company was noncompliant or received a penalty.

Off-Site Spills

In 2015, no off-site spills occurred at Ford manufacturing facilities.

Fines and Penalties Paid

In 2015, Ford paid fines of approximately \$22,000 globally, pertaining to environmental matters at our facilities.

Remediation

Ringwood Mines Landfill Site

Ford Motor Company continues to address concerns raised in connection with Ford's prior disposal activities in Ringwood, New Jersey. Ford continues to work cooperatively with the Borough of Ringwood, the U.S. Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection. In the fall of 2014, the EPA issued a Record of Decision (ROD) for the three soil areas requiring remediation. Ford has signed an Administrative Order on Consent that requires the remedies to be designed. The Preliminary Remedial Design for the soil area remediation has been submitted to the EPA for review and approval. It is anticipated that the EPA will finalize the groundwater ROD later this year or early next.

Livonia Transmission Plant

Ford Motor Company is actively investigating the migration of impacted groundwater from the Livonia Transmission Plant in Michigan. Ford is working closely with the City of Livonia, Michigan Department of Environmental Quality and the neighboring community to determine the extent of the migration. All information and samples collected to date show no health risk to the community. Area residents are connected to the City of Livonia's water source and there is no impact to drinking water.

Data

Operational Energy Use and CO₂ Emissions

A. Worldwide Facility Energy Consumption

	Billion kilowatt hours		
	2013	2014 ¹	2015
Direct	7.7	7.88	7.5
Indirect	7.5	7.06	7.1
Total	15.2	14.94	14.6

Data notes and analysis:

1. 2014 data shows two decimal places to avoid a rounding discrepancy in the total.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

B. Worldwide Facility Energy Consumption per Vehicle

	Kilowatt hours per vehicle		
	2013	2014	2015
Direct	1,253	1,303	1,153
Indirect	1,213	1,167	1,091
Total	2,466	2,470	2,244

Data notes and analysis:

Total energy use per vehicle deteriorated slightly in 2014 compared to 2013 (it increased by 0.2 percent) due to production changes, an increased number of operating facilities and colder weather, which increases the related energy demands.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

C. Worldwide Facility CO₂ Emissions

	Million metric tons		
	2013	2014	2015
Direct	1.5	1.5	1.4
Indirect	3.3	3.1	3.3
Total	4.8	4.6	4.7

Third-party verified (North America and EU)¹

Reported to regulatory authorities (EU). Voluntarily reported to emissions registries or other authorities in Argentina, Australia, Brazil, Canada, China, Taiwan, the United States and Venezuela

Data notes and analysis:

1. Verification data is not yet available for Ford's 2014 and 2015 global facility greenhouse gas (GHG) emissions. One hundred percent of Ford's 2014 and 2015 global facility GHG emissions will be third-party verified to limited assurance. More than 75 percent of Ford's 2014 and 2015 global facility GHG emissions will be third-party verified to a reasonable level of assurance. In addition, all our European facilities affected by the mandatory EU Emissions Trading Scheme (EU-ETS) are third-party verified. All EU-ETS verification statements are provided to Ford, by facility, from Lucideon (formerly CICS) for U.K. facilities, Lloyds for Spain, Intechnica for Germany and SGS for Belgium. North American facilities are verified against the Climate Registry's General Reporting Protocol. European facilities are verified against the EU-ETS rules and guidelines. Ford reports facility CO₂ emissions to national emissions registries or other authorities in Argentina, Brazil, Canada, China, Mexico, Taiwan and the United States.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

D. Worldwide Facility CO₂ Emissions per Vehicle

	Metric tons per vehicle		
	2013	2014	2015
Direct	0.24	0.25	0.22
Indirect	0.54	0.51	0.51
Total	0.78	0.76	0.73

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

E. Energy Efficiency Index**Data notes and analysis:**

NA = Not available.

As of 2015 this data metric is no longer tracked.

Emissions (VOC and Other)**A. North America Volatile Organic Compounds Released by Assembly Facilities****Also see:**

› [Operational Energy and Greenhouse Gas Emissions](#)

B. Ford U.S. TRI Releases**Reported to regulatory authorities (Environmental Protection Agency)****Data notes and analysis:**

NA = Not available.

Releases reported under the U.S. Toxics Release Inventory (TRI) are all in accordance with the law, and many of them are subject to permits. The data shown is the most recent reported to authorities.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

C. Ford U.S. TRI Releases per Vehicle**Reported to regulatory authorities (Environmental Protection Agency)****Data notes and analysis:**

NA = Not available.

Releases reported under the U.S. Toxics Release Inventory (TRI) are all in accordance with the law, and many of them are subject to permits. The data shown is the most recent reported to authorities.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

D. Ford Canada NPRI Releases**Reported to regulatory authorities (Environment Canada)****Data notes and analysis:**

NA = Not available.

Releases reported under the U.S. Toxics Release Inventory (TRI) are all in accordance with the law, and many of them are subject to permits. The data shown is the most recent reported to authorities.

Also see:

› [Operational Energy and Greenhouse Gas Emissions](#)

E. Ford Canada NPRI Releases per VehicleReported to regulatory authorities ([Environment Canada](#))

Data notes and analysis:

NA = Not available.

Releases reported under the U.S. Toxics Release Inventory (TRI) are all in accordance with the law, and many of them are subject to permits. The data shown is the most recent reported to authorities.

F. Australia National Pollutant Inventory Releases (Total Air Emissions)Reported to regulatory authorities ([NPI](#))

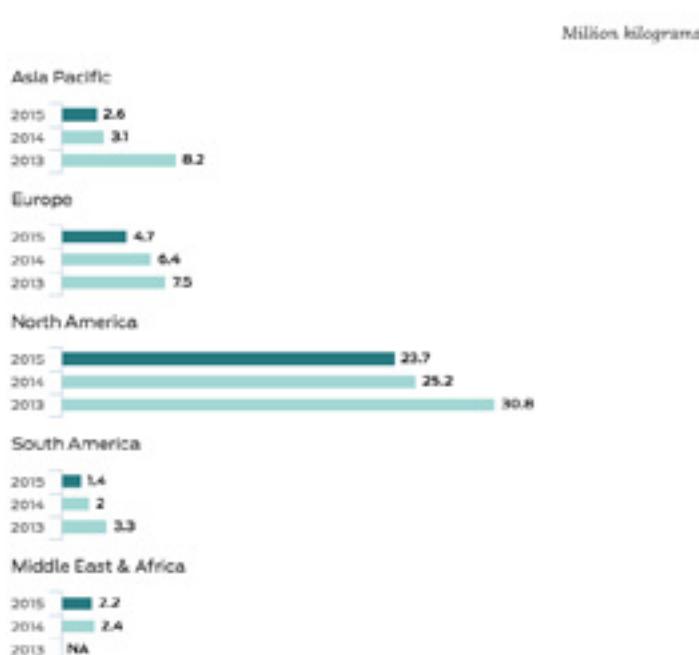
Data notes and analysis:

NA = Not available.

Releases reported under the Australian National Pollutant Inventory are all in accordance with the law, and many of them are subject to permits. The data shown is the most recent reported to authorities.

Data is now reported every other year so there is nothing new to include for 2015.

Also see:

> [Non-CO₂ Emissions](#)**Waste****A. Waste to Landfill per Vehicle**

Data notes and analysis:

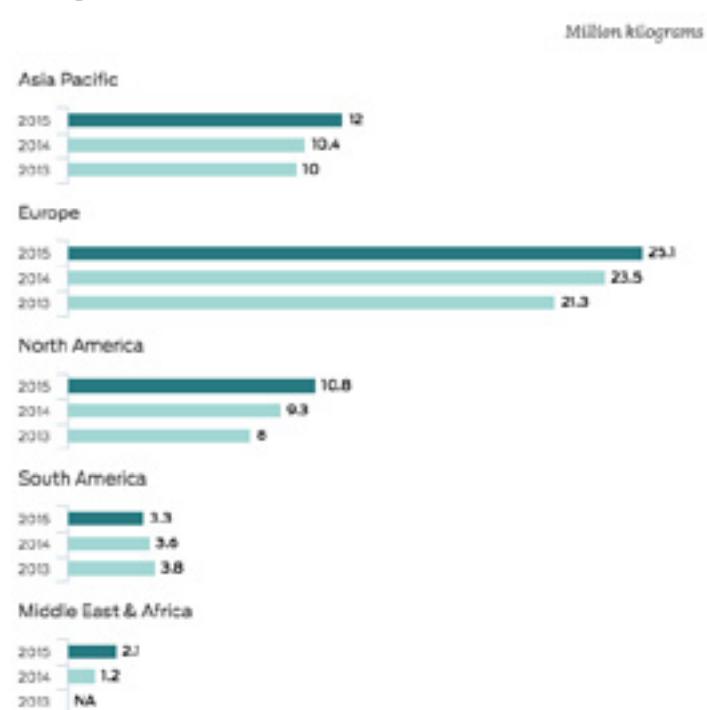
NA = Not available.

In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. For 2013, Middle East & Africa data is included in the Asia Pacific region, formerly the Asia Pacific Africa region. From 2014 forward, Middle East & Africa data will be reported separately.

Also see:

> [Waste Reduction](#)**B. Waste to Landfill per Vehicle**

Also see:

> [Waste Reduction](#)**C. Regional Hazardous Waste Generation**

Data notes and analysis:

NA = Not available.

In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. For 2013, Middle East & Africa data is included in the Asia Pacific region, formerly the Asia Pacific Africa region. From 2014 forward, Middle East & Africa data will be reported separately.

Also see:

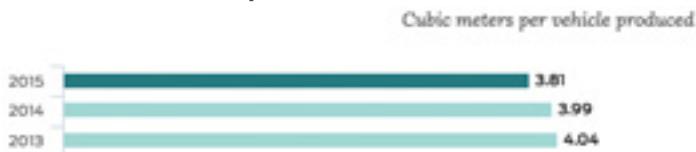
> [Waste Reduction](#)**D. Hazardous Waste Generation per Vehicle**

Also see:

> [Waste Reduction](#)

Water

A. Global Water Use per Vehicle Produced



Also see:

> [Water Use](#)

B. Global Water Use by Source



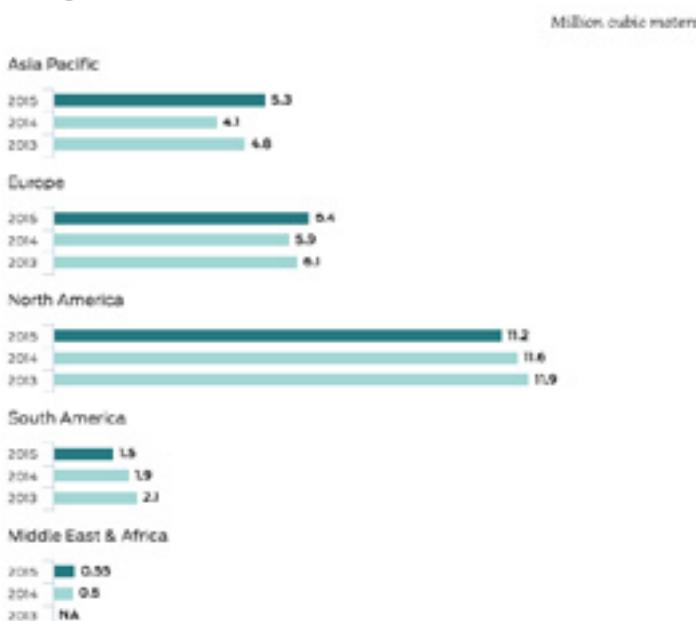
Key:

- City water (includes surface and well water)
- Surface water
- Well water

Also see:

> [Water Use](#)

C. Regional Water Use



Data notes and analysis:

NA = Not available.

In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. For 2013, Middle East & Africa data is included in the Asia Pacific region, formerly the Asia Pacific Africa region. From 2014 forward, Middle East & Africa data will be reported separately.

Also see:

> [Water Use](#)

D. Reuse from On-Site Wastewater Treatment Plant



Also see:

> [Water Use](#)

E. Process Wastewater Discharge



Data notes and analysis:

Process wastewater discharge does not include reuse of stormwater or sanitary.

Also see:

> [Water Use](#)

SUPPLY CHAIN

Leveraging the scale of our supply chain to make a positive impact.

IN THIS SECTION

- [Our Supply Chain Strategy](#)
- [Human Rights and Working Conditions](#)
- [Conflict Minerals](#)
- [Environmental Sustainability](#)
- [Logistics Operations](#)
- [Supplier Diversity](#)
- [Data](#)

Our Supply Chain Strategy

We rely on thousands of suppliers to provide the materials, parts and services we need to make our products. We also require their commitment to help control costs, improve quality and meet sustainability targets.

Supply Chain Overview

The automotive supply chain is one of the most complex of any industry. There can be up to 10 tiers of suppliers and sub-suppliers between an automaker such as Ford and the original source of raw materials used in the manufacturing process.

Our Supply Chain

OPERATIONS

\$110+ billion

total global spend

67

Ford manufacturing sites

PRODUCTION SUPPLIERS

Suppliers of vehicle parts and components

1,200+

Tier 1 suppliers

60+

countries in which suppliers are located

4,400+

supplier sites

100,000+

parts manufactured

500+

commodities sourced

INDIRECT SUPPLIERS

Suppliers of facilities, equipment, materials and services

~10,000

supplier companies

600+

commodities being managed

Managing Our Supply Chain

The breadth and depth of our supply chain make it challenging to effectively manage many business and sustainability requirements. These are ultimately our suppliers' responsibility but, as their customer, we proactively support their development.

To achieve our goals, we foster long-term relationships with our suppliers through active engagement. This helps us communicate our expectations on key issues such as human rights, working conditions and environmental sustainability, and ensure that our suppliers have management systems in place to mitigate potential risks and ensure continuity of supply.

Our approach involves:

- **Communicating** our standards
- **Assessing** their environmental and social performance
- **Helping** to build their environmental and social capability
- **Collaborating** with industry partners and cross-sector organizations to develop solutions in a non-competitive environment.

By leveraging the scale and reach of our supply chain – and the sector as a whole – we aim to make a positive impact in the markets in which we do business around the world.

Communicating Our Standards

The basis of our work with suppliers is Policy Letter 24, our Code of Human Rights, Basic Working Conditions and Corporate Responsibility. This policy addresses workplace issues such as working hours, child labor, forced labor, nondiscrimination, freedom of association, health and safety, and the environment. It applies to our own operations but we also encourage businesses throughout our supply chain to adopt similar policies in their own operations.

To ensure our suppliers understand the standards we expect of them, our production purchase orders incorporate our Global Terms and Conditions (GT&Cs). These are further supplemented by web-guides, which expand on our expectations and suppliers' obligations on specific topics. For example, our Social Responsibility and Anti-Corruption Web-Guide outlines our zero tolerance of child labor, forced labor and human trafficking, physical disciplinary abuse and any infraction of the law, while our Environmental Web-Guide sets out requirements including the elimination of materials of concern and increasing the use of sustainable materials.

Selecting and Screening Suppliers

We select and approve suppliers based upon their ability to provide Ford with quality parts, technology and innovation on a competitive basis. We gain input for sourcing decisions from many departments, including Purchasing, Product Development, Supplier Technical Assistance, Finance, and Material Planning and Logistics.

We also seek to identify and work with companies that have standards that are aligned or consistent with Policy Letter 24, and that cascade these expectations throughout their own supply chains.

Engaging With Suppliers

Open, honest and transparent communication with fair, honorable and consistent behaviors is a key component in establishing strong, lasting relationships with our suppliers. We've established several forums for engagement at all levels of the organization, including regional supplier meetings, business unit reviews, quarterly business update calls, and participation in supplier and industry association events.

Case Study:

RECOGNIZING SUPPLIER EXCELLENCE

We honor suppliers for their outstanding performance and achievements with our World Excellence Awards. At our 17th annual ceremony, held at our global headquarters in Dearborn, Michigan, in May 2015, Ford recognized 52 suppliers from across the globe with awards in 10 categories.

[The 2015 World Excellence Award winners were announced in May 2016.](#)

"Ford's World Excellence Awards allow us to recognize and thank our partners who support us in all we do. In a year with a record number of global product introductions, these companies demonstrated a strong commitment to both quality and performance, and we're honored that they are a part of our One Ford team."

Hau Thai-Tang

Group Vice President, Global Purchasing, Ford

Aligned Business Framework

OUR PERFORMANCE

At the end of 2015,

100%

of our production ABF suppliers had codes of conduct aligned with our Policy Letter 24, and

73%

had robust systems governing their own operations and those of their supply chain.

With our most strategic suppliers, we also maintain dialogue through our Aligned Business Framework (ABF). This engagement helps to further improve quality, drive innovation, find operational synergies and encourage shared commitments to meet sustainability goals.

The ABF formally spells out collaborative and transparent work in areas such as ethical business practices, working conditions, global manufacturing and development footprints, and sourcing from minority-, veteran- and women-owned businesses. Our ABF network, which accounts for 60 percent of our annual spend, currently comprises 81 production suppliers and 26 non-production suppliers. Of these, 13 percent are minority-, veteran- and women-owned suppliers.

For these strategic suppliers, our global Supply Chain Sustainability team has developed a rigorous, three-stage process for managing sustainability issues:

- Ford verifies that ABF suppliers have a code of conduct aligned with Policy Letter 24
- ABF suppliers conduct internal training to ensure their employees understand and comply with their codes of conduct. Ford validates each supplier's internal mechanisms to ensure ongoing alignment
- ABF suppliers are also required to extend our shared expectations to their own suppliers. Ford ensures that ABF suppliers can verify that their own supply chains are compliant with expectations

Human Rights and Working Conditions

Ford is committed to respecting human rights everywhere we operate. Our human rights and working conditions program is an integral part of our efforts to develop a more sustainable and ethical supply chain.

Our Approach to Human Rights

We aim to ensure that everything we make – or that others make for us – is consistent with local law and our own commitment to protecting human rights, as embodied in our Policy Letter 24, our Code of Human Rights, Basic Working Conditions and Corporate Responsibility.

This commitment requires a robust approach to safeguarding against human rights abuses in our supply chain, as detailed on the following pages. This approach includes:

- Analyzing the risks related to human rights and working conditions associated with our supply base on a regular basis
- Conducting training and working to build our suppliers' capability
- Auditing our Tier 1 suppliers in high-priority locations to ensure their continued compliance with legal requirements and Ford's standards
- Collaborating with others in multi-stakeholder initiatives and organizations to drive positive change throughout the automotive industry
- Aiming to "Go Further" through proactive sustainability actions that enhance our program's effectiveness

Risk Profile and Analysis

Due to the size and reach of our global supply base, we prioritize our efforts with suppliers located in countries that pose the highest risk for substandard working conditions.

To determine those priority locations, we conduct an annual risk analysis, incorporating internal and external data, and input from external stakeholders. The internal data includes information such as the commodities being purchased, and the supplier's location, annual spend, and training and audit history within Ford's Supply Chain Sustainability program.

As a result of this analysis, our list of 22 high-priority countries remained unchanged in 2015 (see below). In addition, our Purchasing Supplier Technical Assistance (STA) representatives are trained to identify and report potential warning indicators for human rights violations in any supplier location around the world. As a result, when individual circumstances arise, we routinely work with suppliers outside the locations on this list to ensure that Ford's expectations continue to be met.

Human Rights and Working Conditions Program: Priority Countries



Americas

Argentina, Brazil, Colombia, Dominican Republic, Honduras, Mexico, Nicaragua, Venezuela

Asia

China, India, Indonesia, Malaysia, the Philippines, South Korea, Taiwan, Thailand, Vietnam

Europe, Middle East & Africa

Morocco, Romania, Russia, South Africa, Turkey

Supplier Training and Education

Training on human rights issues is essential to help our suppliers build their capability to responsibly manage working conditions in their facilities.

Our Training Approach

In 2015, Ford helped to develop and launch a modified training approach through the Automotive Industry Action Group (AIAG). The revised curriculum now involves:

- An **e-learning module** introducing the concepts covered by the [AIAG Guiding Principles](#)
- A **knowledge assessment** designed to provide feedback from key training
- **Face-to-face in-country workshop sessions** focusing on specific country laws and local best practice, and encouraging dialogue with suppliers from multiple Original Equipment Manufacturers (OEMs)

The first two phases are available free of charge to OEMs and sub-tier suppliers in seven languages. The updated training materials have been shared with the European Automotive Working Group to promote a consistent industry message.

The face-to-face training sessions are customized to suit the unique conditions in each country. They are designed to emphasize the role of human rights in meeting legal obligations, industry guidelines and international best practices, and include strategies for developing effective management systems. Participating suppliers are required to verify that they have cascaded the information to their employees and their own direct suppliers.

Most of Ford's face-to-face supplier training is delivered either through the AIAG or the European Automotive Working Group. These standard training materials also serve as the basis for our own Ford-specific workshops.

Training Results

OUR PERFORMANCE

208

direct and indirect suppliers in six high-priority countries were trained on human rights issues in 2015.

› [DATA: Working Conditions Training and Assessment](#)

In the first six months of availability, the new e-learning module reached more than 1,500 participants. This includes 340 participants from 14 countries who identified Ford as a customer.

In 2015, we invited Ford suppliers to attend joint industry training through the AIAG in Brazil, China and Mexico, and in collaboration with the European Automotive Working Group in India and South Africa. We also conducted Ford-sponsored training in Brazil and Thailand.

In 2016, we plan to host face-to-face training sessions in Argentina, the Czech Republic and India. We are also developing an action plan to increase the penetration of the AIAG e-learning module and knowledge assessment throughout our supply base.

Training Data

	Program		
	2014	2015	Total ¹
Training sessions conducted	7	12	161
Total sites trained/retrained	280	208	3,156

Data notes and analysis:

1. Program Total represents cumulative data from 2003 to 2015.

Internal Supply Chain Sustainability Training

As well as developing our suppliers, we also continue to strengthen our own internal capability for managing human rights. For example, in 2015, we trained 117 Ford Purchasing employees, including management and supplier quality teams, on our Policy Letter 24 and Supply Chain Sustainability program, which includes identifying and reporting key warning indicators. Given their close relationships with our suppliers, Supplier Technical Assistance (STA) representatives around the world also attend supply chain sustainability training. Since 2014, we have trained 1,460 STA personnel, and training on our Supply Chain Sustainability program will again be required in 2016.

Auditing Our Suppliers

Third-party social responsibility audits provide suppliers with feedback about how well they are meeting legal requirements and Ford's expectations. They also help identify specific areas for improvement.

Our Audit Approach

OUR PERFORMANCE

1,071

third-party social responsibility audits of Tier 1 suppliers in 22 high-priority countries have been conducted since 2003.

› [DATA: Working Conditions Training and Assessment Status for Supply Chain](#)

Our human rights and working conditions audits, conducted by qualified third-party social auditors, consist of a pre-assessment questionnaire, a review of facilities and relevant documents, and interviews with both management and employees. Audits are generally announced and coordinated with the supplier in advance; however, in 2015, we conducted our first semi-announced audit of a supplier facility. An audit is defined as semi-announced when the supplier is aware that it will take place but is not aware of the exact date.

Auditors are provided with a list of key issues that must be immediately raised (within 24 hours) if found during an audit. These issues include:

- **Labor**
The presence of child workers, forced labor or physical disciplinary practices

• Governance

Noncompliance with minimum wage levels, fraudulent books or attempted bribery

• Safety

Life-threatening situations such as blocked fire exits or an absence of lock-out procedures

In 2015, we received three auditor notifications that were immediately investigated and were deemed not to be priority violations. For example, in one case, a supplier had not posted a sufficient number of evacuation plans around the facility. When this was found in an audit, we worked directly with the supplier to rectify the issue and ensure that proper signage was put in place.

Audit Results

In 2015, 81 initial social responsibility audits and 120 follow-up audits were conducted, as detailed below:

2015 Audits: Assessment Results

	2014	2015	Total to date ¹
Initial assessments	75	81	1,071
Follow-up assessments	53	120	1,232

Data notes and analysis:

1. Program Total represents cumulative data from 2003 to 2015.

2015 Audits: Prevalent Issues Identified

Category:	Audits with Referenced Issues Identified			Sample Corrective Actions
	Number	%	Finding	
Category: Labor				
Working Hours	55	68%	No procedures to ensure working hours and rest day limits are followed	Supplier revised "Excessive Working Hours" training procedure; deviations in daily procedure reported
			Some employees working more than six consecutive days	Facility to ensure every employee has at least one day off per week
Child Labor Avoidance	46	57%	No child labor avoidance policy or procedures found	Supplier updated employee manual to include child labor remediation
			No procedure in place to respond to potential discovery of underage workers	Facility now requires and keeps copies of proof of birth of all employees
Category: Health and Safety				
Emergency Preparedness and Response	59	73%	Insufficient lighting around emergency exits	All non-working lights to be replaced during annual shutdown
			Evacuation maps only posted in English	Evacuation maps to be translated into local languages of employees
			No strobe/visible fire alarms in high noise areas to show emergency evacuation route	Facility will install visible fire alarm in high noise areas
			No fire drill held in last 12 months	Fire drill planned for early 2016
Occupational Injury and Illness	41	51%	First aid material not clearly marked or accessible	First aid kits have been replenished and placed in each department
			No record of designated individuals attending first aid training	First aid course will be given to all facility workers, and course completion certificates issued
			No investigations into causes of safety issues or implementation of corrective actions	Preliminary analysis conducted; data now reviewed at monthly Safety Committee meetings
Category: Labor and Ethics Management				
Management Accountability and Responsibility	43	53%	No assessment of the status of labor and ethics management system to identify improvement opportunities	A system review will be conducted and gaps will be discussed and addressed
			Health and safety responsibilities for managers and supervisors not defined	Facility will define and document health and safety roles and responsibilities for managers, supervisors and workers

Taking Corrective Action

For any issues identified during an audit, the supplier is required to prepare a corrective action plan, which Ford reviews and monitors. Regular supplier reviews help ensure ongoing compliance with the agreed action plan, which serves as a blueprint to audit closure.

Should a supplier be unable or unwilling to address audit findings within our expected timeframe, we first engage with our regional and global purchasing communities to attempt to resolve the issue. However, we reserve the right to end our relationship with any supplier that fails to comply with our policies or local laws, or fails to address noncompliances within an agreed timeframe. This approach enables us to ensure that human rights are upheld throughout our supply chain, while mitigating any potential negative impact on the supplier relationship.

In 2015, seven suppliers that did not meet our expected timeframe were escalated within Global Purchasing, resolved all issues and were not removed from our supply base due to human rights concerns.

Industry Collaboration

Ford participates in multi-sector initiatives to explore ways to strengthen our supply chain and combat human rights violations. We believe that sector-wide forums are also vital for providing a common voice and for driving change within our industry.

Currently, our participation includes the following:

- **Automotive Industry Action Group (AIAG):** Ford co-chairs the Working Conditions Oversight Committee, which works to increase supplier capability for managing human rights and working conditions in the sector. We are also engaging with AIAG's Sustainability Supplier Self-Assessment Work Group to create a standardized tool for automotive supplier sustainability gap analysis
- **European Automotive Working Group:** Ford actively participates in the European Working Group on Supply Chain Sustainability facilitated by CSR Europe
- **United Nations Global Compact (UNGC):** Ford is a signatory of the UNGC, a framework for businesses committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, the environment and anti-corruption
- **Global Business Coalition Against Human Trafficking (gBCAT):** Ford is one of the founders of this cross-industry organization and participates on the Board of Directors
- **Electronic Industry Citizenship Coalition (EICC):** Ford is the first automaker to join the EICC (see Going Further)

We're also one of 14 automakers that have committed to the [AIAG Corporate Responsibility Guiding Principles](#) and the [European Automotive Workgroup Guiding Principles](#) to enhance sustainability performance throughout the automotive supply chain.

Going Further Toward Supply Chain Leadership

Ford is taking active steps to “Go Further,” moving beyond sustainability compliance toward sustainability leadership in the field of human rights and working conditions.

Electronic Industry Citizenship Coalition (EICC)



Ford is the [first automotive manufacturer to join the EICC](#), a nonprofit organization committed to improving social, environmental and ethical conditions in global supply chains.

Working with more than 110 electronics companies, some of which are Ford suppliers, will enable us to further improve the way we engage with our suppliers on sustainability-related issues such as human rights, working conditions, ethical sourcing and environmental responsibility. EICC's experience and leadership will support us as we seek to further develop and fine-tune our systems and approaches to improve human rights and working conditions throughout our supply chain.

“We are excited to have Ford as a full member of the Electronic Industry Citizenship Coalition. Ford is our first automotive company member, and we are looking forward to collaborating and building on its unique global experiences and supplier relationships, as well as the growing convergence between the automotive and electronics industries.”

Rob Lederer

Executive Director, Electronic Industry Citizenship Coalition (EICC)

Forced Labor and Human Trafficking

Ford has a zero-tolerance policy toward both forced labor and child labor. We have addressed the threat of these issues in our supply chain and taken a number of actions to safeguard against them (see below). These include maintaining compliance with all applicable legislative initiatives, acts and regulations designed to increase supply chain transparency. These legislative initiatives include the California Transparency in Supply Chains Act of 2010 (SB657); the UK Modern Slavery Act (UK-MSA); and the Federal Acquisition Regulation (52.222-50, Combatting Trafficking in Persons).

Human Trafficking Disclosure Statement

Since January 2012, companies doing business in California have been legally required to disclose any efforts taken to address the issue of forced labor and human trafficking per the California Transparency in Supply Chains Act of 2010 (SB 657). Our Policy Letter 24: Code of Human Rights, Basic Working Conditions and Corporate Responsibility clearly states that we do not tolerate forced labor (including human trafficking) or child labor in our operations, and that we conduct internal audits of our manufacturing locations to ensure compliance.

Our processes to safeguard against human rights abuses, including forced labor and human trafficking, in our supply chain include the following:

- **Our Global Terms and Conditions (GT&Cs) forbid the use of forced labor, child labor and physically abusive disciplinary practices.** Our definition of forced labor includes human trafficking, as outlined in our Policy Letter 24. Purchase orders require suppliers to certify compliance with local laws and the GT&Cs that govern our purchase of goods and services. 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 maintain internal accountability, holding all Ford employees and suppliers accountable to the standards on human trafficking set out in Policy Letter 24.** Employees and suppliers have multiple avenues through which to register complaints or grievances related to human rights and human trafficking, including a dedicated email inbox and a company hotline.
- **We regularly assess risk related to human trafficking and forced labor associated with our supply base.** Our preliminary assessment is based upon geography, the commodity purchased, supplier quality performance and the nature of the business transaction. Ford performs these risk assessments with input from external stakeholders.

- We conduct training and build capability.** We regularly conduct internal training on our Policy Letter 24 and Supply Chain Sustainability Program with our Global Purchasing staff. We also require suppliers in high-risk countries to attend training to raise awareness of Ford's requirements and legal obligations, including those related to forced labor and child labor. (Read more about internal and supplier training.)
- We regularly conduct social responsibility audits of at-risk Tier 1 supplier factories.** These audits evaluate supplier compliance with both local law and Ford's human rights expectations as communicated in Policy Letter 24. These independent audits can be either announced or unannounced, and decisions about which facilities to audit are based upon our risk assessment. (Read more about auditing suppliers.)

[› Ford Motor Company Limited – Slavery and Human Trafficking Statement for Financial Years 2015 and 2016](#)

Case Study:

FORCED LABOR AND PIG IRON

A range of products and materials sourced from specific geographies have been identified by the U.S. Department of Labor as posing potential human rights concerns. The list includes charcoal from Brazil, which can be used to make pig iron, a key ingredient in steel production. We have demonstrated our commitment to swift, proactive action to address human rights concerns associated with pig iron. In the past, when charcoal produced in Brazil using slave labor found its way into the sub-tiers of our supply chain, we worked directly with our suppliers to resolve the issue. In 2015, we conducted an updated due diligence inquiry of our steel and iron casting suppliers. Based upon its findings, we did not find any evidence of forced labor among the importers, exporters and trading companies in these value chains.

PIG IRON PRODUCTION SUPPLY CHAIN



Conflict Minerals

The U.S. conflict minerals legislation is designed to reduce funding to armed groups benefitting from mineral trade in the Democratic Republic of the Congo (DRC) or adjoining countries. Ford is required to investigate the origin of the conflict minerals in our products. Our goal is to use only conflict-free sources of tin, tungsten, tantalum and gold. We file an annual report disclosing the status of conflict minerals in our products.

DEFINITIONS

3TG: Tantalum, tin, tungsten and gold.

Conflict minerals:

Gold, as well as Columbite-Tantalite (coltan), cassiterite, wolframite or their derivatives, which are limited to tantalum, tin and tungsten.

Also see:

[› Glossary](#)

Tin, tungsten, tantalum and gold (3TG) are used in many auto parts and components, from engine assemblies to airbags. We work tirelessly to ensure the minerals we use in our vehicles are DRC conflict-free, and continue to support responsible mineral sourcing in the DRC and adjoining countries.

Our Approach

In August 2012, the U.S. Securities and Exchange Commission (SEC) adopted the final rule to implement reporting and disclosure requirements concerning conflict minerals. Since 2014, under the U.S. Dodd-Frank Act 2010¹, public companies have been required to conduct due diligence to determine the origin of the conflict minerals in their products and report annually to the SEC in the hope of ending violent conflict in the DRC and adjoining countries. We are one of several automotive manufacturers obliged to report on conflict minerals in our supply chains in a Specialized Disclosure report, filed annually with the SEC.

To enable compliance with this disclosure rule, suppliers that provide us with components containing tin, tungsten, tantalum and gold are expected to conduct due diligence to understand the origins of such minerals, source them responsibly, and not knowingly provide parts containing minerals that may contribute to conflict. They are also encouraged to use validated, DRC conflict-free smelters and refiners for the tin, tungsten, tantalum and gold purchased for use in Ford products. We encourage them to use the Due Diligence Guidance compiled by the Organisation for Economic Co-operation and Development (OECD) to assess the chain of custody of these minerals.

Reporting Progress

OUR PERFORMANCE

100%

of our in-scope suppliers submitted an annual conflict minerals reporting template in 2015.

Suppliers are required to submit an annual Conflict Minerals Reporting Template (CMRT) to Ford. In 2015, we met our goal to achieve a 100 percent response rate from in-scope suppliers, up from 91 percent in 2014. In 2016, we will continue to work with our suppliers to improve the quality of their reports.

[› 2015 Conflict Minerals Report](#)
[› Conflict Minerals Policy](#)

Industry and Cross-Industry Leadership

Our leadership position among our industry peers, across other sectors and in multi-stakeholder initiatives extends to developing solutions and sharing best practices to ensure responsible sourcing in our supply chain.

OUR PERFORMANCE

Going further: In recognition of our efforts, Ford was ranked

14th in the Top 100

Conflict Minerals Influence Leaders by Assent in 2016, and named the automotive sector's leader by Responsible Sourcing Network in 2015.

Our memberships and leadership positions include the following:

- Automotive Industry Action Group (AIAG)** – Ford's active role on the Smelter Engagement and Best Practices teams supports the development of processes and tools to educate suppliers and improve supply chain reporting transparency
- Conflict-Free Sourcing Initiative (CFSI)** – Ford is one of more than 300 CFSI members participating in cross-industry smelter engagement, visits and other initiatives to encourage smelter participation in the Conflict-Free Smelter Program. We also hold a non-voting seat on the CFSI Steering Committee, representing AIAG
- Multi-Stakeholder Group (MSG)** – The MSG lies at the heart of the Extractive Industries Transparency Initiative (EITI). Ford participates in efforts to develop efficient solutions to obtain conflict-free minerals from the DRC
- Public-Private Alliance for Responsible Minerals Trade (PPA)** – Ford serves on the PPA's Governance Committee contributing to regional solutions for certified conflict-free minerals

Future Goals

As we continue on our conflict minerals journey, we have set the following measurable goals:

- 100 percent response rate from in-scope suppliers for annual reporting
- Year-over-year improvement in the percentage of suppliers providing smelter lists
- Year-over-year improvement in the percentage of suppliers using CFSI-compliant conflict-free smelters
- Participate in smelter outreach efforts to encourage participation in the CFSI audit process

1. Specifically, Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

- The GHG or water intensity of their activities or the commodities they supply
- The geographic footprint of the supplier's global operations, including those in water-stressed or water-scarce regions
- The strategic nature of the supplier's relationship with Ford

In 2015, we surveyed approximately 250 production suppliers covering various commodities and geographical regions, as well as indirect suppliers of logistics and information technology services.

Since 2014, they have also been invited to respond to the CDP Water questionnaire. Together, the two questionnaires provide qualitative and quantitative information about our suppliers' management of climate risks, GHG emissions and water use.

2015 Survey Results

CDP Supply Chain Questionnaires (GHG and Water Data)

	2013	2014	2015
Number of suppliers surveyed	145	250	250
Responding suppliers	123	202	202
% of Ford's annual spend	52	57	64

Our response rate of 81 percent was much higher than the average for all companies participating in the CDP's programs (50 percent). We attribute this high response rate to the support we provide to suppliers through webinars, guidance documents and technical assistance. This engagement includes a one-day supplier training program for calculating, allocating and reporting GHG emissions that was developed through the Automotive Industry Action Group (AIAG).

The number of Ford suppliers reporting GHG reduction targets on both an absolute and intensity basis continues to increase. In 2015, 66 percent reported having an emissions reduction target, and 78 percent reported integrating climate change into their business strategy. In addition, 41 percent of our respondents reported a water-related target or goal.

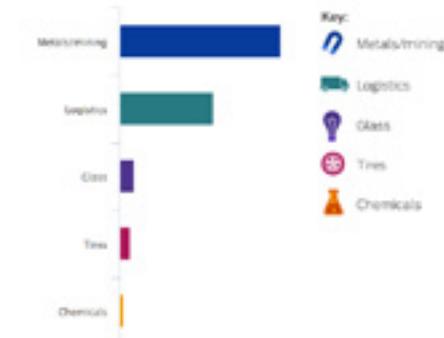
Supplier Water Use by Industry Sector

CDP Supply Chain Data: Total Annual Ford Allocated Water Use Water use per supplier (Average of 2-5)



Supplier Emissions by Industry Sector

CDP Supply Chain Data: Total Annual Ford Allocated GHG Emissions Average top 5 suppliers in each category



Environmental Sustainability

Ford is committed to reducing the environmental footprint of our supply chain, as well as our vehicles and our operations.

Understanding Our Suppliers' Environmental Impact

To better understand the greenhouse gas (GHG) emissions and water use of our supply base, we survey a selection of suppliers every year using the CDP Supply Chain program's questionnaires. The selection of production and indirect suppliers invited to participate is based on a combination of:

The ongoing data obtained through the CDP surveys has helped us identify “hotspots” for GHG emissions and water use. These suppliers have been targeted to participate in the Partnership for a Cleaner Environment (PACE) program.

Read about our efforts to [reduce GHG emissions](#) and [water use](#) in our manufacturing sites in the Operations section of this report.

Building Supplier Capability

Ford provided a briefing on PACE to the G7 Alliance on Resource Efficiency at a workshop in Washington, D.C., in March 2016, highlighting best practices and addressing key environmental issues.

Our supply chain sustainability initiative – the PACE – was launched in 2014 to reduce the collective environmental footprint of Ford and our supply chain.

Our goal is to share leading energy, GHG emission and water reduction initiatives implemented in our own manufacturing plants, enabling suppliers to replicate best practice, minimize their impacts on the environment and report their sustainability performance to Ford. To amplify the impact down the supply chain, we also encourage our Tier 1 suppliers to share these leading practices with their own suppliers.

A pilot program with a select group of 10 suppliers was completed in February 2015. Since then, we have extended PACE to include a total of 25 strategic suppliers representing 800 manufacturing sites in 41 countries.

“By implementing select best practices from Ford, Lear expects to realize cost savings at its facilities worldwide. But the true impact will be Lear’s contribution to helping protect the environment because, at the end of the day, Ford’s PACE program is not just about sustaining its business, but about doing the right thing.”

Doug Andrews

Environmental Sustainability Manager, Lear Corporation

The PACE Process



1. Suppliers create multi-year roadmaps for improving environmental performance
2. Baseline environmental data is entered into the roadmap
3. Leading practice approaches are selected and implemented
4. Reductions in GHG emissions or water use are calculated, and progress against the baseline is reported
5. Leading practice examples, implemented by our suppliers or our own facilities, are updated and periodically shared

› [Supplier Training Data](#)

Collaborating with Industry Partners

To magnify our efforts and encourage common approaches to environmental issues in the automotive supply chain, we participate in several industry forums.

- Ford founded and co-chairs the AIAG's **Environmental Sustainability Advisory Group**, which helps to develop common metrics, standards and benchmarks to improve the effectiveness of member companies' and industry groups' sustainability efforts. The group educates suppliers and manufacturers about key environmental issues and serves as a “think tank” on environmental sustainability
- Ford also worked with the AIAG's **Greenhouse Gas and Environmental Sustainability Advisory Group** to integrate environmental sustainability and GHG management issues across the industry
- Ford serves as a member of the **Suppliers Partnership for the Environment**, a collaboration among automotive OEMs, their suppliers and the U.S. Environmental Protection Agency

Logistics Operations

Our logistics operations provide the safe and efficient transport of parts and components from our suppliers to our manufacturing plants (“inbound” freight), and of finished vehicles from our plants to our dealerships (“outbound” freight).

This work is managed by our Material Planning and Logistics (MP&L) organization. With activities coordinated regionally, its responsibilities include designing and operating our global transportation networks, and devising high-quality and efficient packaging to protect materials in transit.

Environmental initiatives within our MP&L organization, known collectively as “green logistics,” are focused on the following main topics:

- Compliance with regulatory standards, including ISO 14001 compliance and updating our fleets in line with the latest requirements
- Quantifying and reporting our freight GHG emissions
- Reducing our emissions by improving our transportation and network efficiencies
- Optimizing our packaging processes and increasing the use of sustainable packaging materials

Reporting Freight GHG Emissions

Understanding, quantifying and reporting our freight emissions helps us understand our overall environmental impacts, and prioritize ways to minimize our total life cycle carbon footprint. Therefore, we work closely with our logistics partners to collect data from across our transport networks and collate it in a global performance scorecard.

Best Practice Reporting

We have been engaged in reporting freight emissions since 2006 and work with various standards agencies to help develop best practices. In recent years, we have taken a number of steps to expand the scope and accuracy of our reporting. For example:

- We actively supported the development and road testing of the Greenhouse Gas Protocol Scope 3 reporting standard (see below)
- We now account for a full range of GHG emissions, including nitrous oxide and methane, as well as CO₂
- We work with industry bodies to promote the ongoing development of improved reporting methods

Looking ahead, we are moving toward calculating “well-to-wheels” emissions. This more holistic, life cycle approach to CO₂ takes account of how fuel is produced and, for instance, allows us to quantify the benefits of using electricity from low-emission sources.

Indirect Emissions: Scope 3 Greenhouse Gas Accounting and Reporting

Scope 3 GHG emissions include all upstream and downstream emissions in a company's value 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 beyond our own operations and direct suppliers.

The [Scope 3 GHG Emissions Standard](#), developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), helps with this difficult task. Used in conjunction with the GHG Protocol Corporate Accounting and Reporting Standard, it provides companies with a methodology for reporting emissions from their own operations.

› [Our Greenhouse Gas Footprint](#)

We work with the AIAG in North America to encourage others in the industry to adopt these standards. In Europe, we have worked closely with both the U.K. Department for Transport and Odette International, the European automotive supply chain standards organization, in writing guidance on measuring and reporting GHG emissions.

Believing that our logistics providers should have their own policies on CO₂ issues, we include our major North American and European logistics providers in our annual Carbon Disclosure Project Supply Chain submissions.

Reducing Freight Emissions

Freight emissions are influenced by a wide and complex range of inter-related factors, including the mode of transport, the efficiency of the equipment used and the design of the freight network.

Our Approach

We find the most effective ways of achieving reductions are through:

- Improving the design and operation of our transportation networks
- Increasing vehicle utilization
- Increasing the use of greener modes of transport, such as rail and water

We view our work to reduce emissions as very positive, as the actions taken generally produce other environmental benefits. For example, reducing road traffic will also reduce congestion and noise, particularly around our operating locations.

Freight Networks

In general, we contract and manage our own freight networks rather than have freight provided by our suppliers. This gives us better control and allows us to optimize route planning across all pickup points and destinations. The key elements of network planning include:

- Using and optimizing the location of regional distribution centers to coordinate deliveries
- Using “milk run” routes, where several collection points can be visited by a single truck, minimizing the number and length of journeys required
- Improving load density – the volume of freight on a trailer – which reduces the number of trips and the fuel consumed

Vehicle Utilization

In some regions, we operate our own transport fleets, ensuring the use of the latest engine technologies and equipment modifications such as fixed deflectors and speed limiters. Our drivers are trained in the techniques of fuel-efficient driving.

We have modified equipment to increase utilization. In both India and the United States, we have developed two-tier rail wagons to increase the number of vehicles carried per journey. Similarly, in the UK, our road transporters have been adapted to efficiently handle the larger Transit models.

Transport Modes

Throughout our operations, we look for opportunities to maximize the use of rail, river and short sea transport, reducing both CO₂ emissions and road traffic. Across Europe, we use “SWAP bodies” – standard freight rail containers that can be lifted onto dedicated road trailers – to extend our ability to use rail freight.

We are increasingly using short sea trips to avoid overland journeys by road. Examples include our support of the European Union “Motorways of the Sea” project and the shipment of vehicles by sea to the United States from our Cuautitlan plant in Mexico.

Optimizing Packaging

The Packaging Engineering department of our Material Planning and Logistics (MP&L) organization focuses on designing, procuring and optimizing packaging to best suit the items being moved and the transport mode involved.

The Benefits and Impacts of Packaging

Packaging has environmental impacts throughout its life cycle, including material use, transport emissions and waste disposal. Our experiences over time have confirmed to us that the best strategy for eliminating waste and optimizing efficiency is to use durable, returnable packaging. This generally means the development of robust plastic containers that can survive years of repeated re-use.

Our standard range of packaging not only protects its contents but also allows maximum storage density during transportation. We always review the packaging of new parts before the full-volume launch of any product, to assess any improvement opportunities.

Using standardized packaging makes packaging more interchangeable between suppliers and programs. In many locations, we have contracts with packaging providers to collect and pool packaging for our suppliers. This enables our packaging to be shipped on to where it is next needed rather than having to be returned to the previous supplier, thereby greatly reducing transport requirements.

Long-Distance Ocean Freight

The biggest challenge in sustainable packaging has been implementation for long-distance ocean freight. The difficulty in introducing returnable packaging is avoiding the need for a return leg to ship back empty containers. Traditionally, most automotive parts shipped by sea are packed in modular, cardboard boxes. We're working to reduce this dependence on cardboard by using IsoBins: durable containers specially designed for use in sea containers. The business solution to avoid empty returns is to work with logistics providers who can use the return leg for shipping material for other customers. Following successful pilots, we are introducing them on other programs.

We continually work to share best practice between regions and drive improvements in packaging. Ford's packaging guidelines require supplier-provided packaging to have a neutral or positive environmental footprint, achieved through zero waste to landfill and the use of 100 percent recycled, renewable or recyclable materials.

Supplier Diversity

Ford's Supplier Diversity Development (SDD) Program is our commitment to economically empower diverse communities through wealth creation. We recognize that a diverse supply base is an integral part of our overall growth and success, providing fresh perspectives that lead to cutting-edge innovations and accelerated business development.

Developing a Diverse Supply Chain

Having a diverse supply base is crucial to delivering our promise to help the world move better. We are committed to working with and developing supplier companies owned by minorities, women and veterans, as demonstrated through our guiding principles:

- To deliver extraordinary support and assistance to certified minority-, women- and veteran-owned businesses that have historically been socially and economically disadvantaged
- To create business opportunities and initiatives that enable diverse suppliers to grow into profitable and sustainable enterprises
- To have Ford suppliers accurately reflect the company's workforce and customer base

We continue to foster productive relationships with entrepreneurs from a wide range of backgrounds to meet our customers' needs and expectations.

Our Progress

Our Supplier Diversity Development office has long worked with business leaders, trade associations and community organizations representing the interests of diverse businesses. This has helped to earn Ford a seat at the Billion Dollar Roundtable (BDR), an exclusive group of 21 companies that purchase at least \$1 billion a year from diverse suppliers. The BDR encourages businesses to extend their supplier diversity programs and increase spending levels each year.

2015 FORD DIVERSITY SUPPLIER SPEND
In 2015, Ford purchased goods and services worth:

\$8.2 billion

from minority-owned suppliers.

\$1.1 billion

from veteran-owned companies.

\$2.3 billion

from women-owned businesses.

OUR PERFORMANCE

To date, our Supplier Diversity Development Program has sourced more than

\$90 billion

in goods and services from minority-, women- and veteran-owned businesses.

Ford's SDD Program is nationally recognized for its leadership and success in driving innovative best practices; these result in productive business partnerships with diverse entrepreneurs, and valuable products and services for our customers.

> [Supplier Diversity Data](#)

Awards and Recognition

In 2015, Ford's Supplier Diversity Development Program received external recognition from a wide range of awards, rankings and rating indices, suggesting that we continue to perform well against our goal to "maintain leadership in supplier diversity." Several of our dedicated staff were also recipients of honors, awards and accolades.

Major Awards and Recognitions for Supplier Diversity Program

- Corporation of the Year (Gold Level) – Women's Business Enterprise National Council (WBENC)
- Top Corporation of the Year – National Minority Supplier Development Council (NMSDC)
- 100 Corporations of the Year – Women's Enterprise (WE) USA
- Industries Top Professionals – Minority Business News (MBN) USA, Chrome Conference Edition
- Corporate 101: America's Most Admired Corporations for Supplier Diversity 2015 – Minority Business News (MBN) USA (USHCC Convention)
- 'Best in Class' Excellence in Supplier Diversity – Great Lakes Women's Business Council
- Corporation of the Year Manufacturing OEM – Michigan Minority Supplier Development Council (MMSDC)
- Corporation of the Year: Community Award – Michigan Hispanic Chamber of Commerce
- Top Supplier Diversity Programs – Black EOE Journal
- Top Supplier Diversity Programs for Hispanics – Hispanic Network Magazine
- One of the 2015 Military Friendly Supplier Diversity Programs – National Veteran-Owned Business Association (NaVOBA)
- Top Supplier Diversity Programs – Professional Women's Magazine
- Top Supplier Diversity Programs – U.S. Veterans Magazine
- 2015 Million Dollar Club – US Hispanic Chamber of Commerce

Individual Awards for Ford Employees

- 2015 USA Champion – MBN Magazine
- 2015 Leadership Award – National Minority Supplier Development Council
- 2015 Best of the Decade CEO Honorees – MBN USA Magazine
- 2015 Best of the Decade Executive Champion Honorees – MBN USA Magazine
- 2015 Best of the Decade Circle of Honor/Supplier Diversity Professional – MBN USA Magazine
- 2015 Best of the Decade Executive Champion Honorees – MBN USA Magazine
- Lifetime Achievement Award – Multicultural Media Luncheon presented by The Ajamu Group, LLC
- Top 100 Leaders in Corporate Supplier Diversity 2015 – Women's Enterprise (WE) USA
- Advocate of the Year – Michigan Minority Supplier Development Council (MMSDC)
- Corporate Buyer of the Year: National – Michigan Minority Supplier Development Council (MMSDC)
- Ambassador of the Year – Asian Pacific American Chamber of Commerce (APACC)

B. Total Supplier Sites Trained/Retrained in Sustainability Management



Data notes and analysis:

This is a new indicator that has been calculated since 2012.

Also see:

› [Supplier Training and Education](#)

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



Also see:

› [Supplier Diversity](#)

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



Also see:

› [Supplier Diversity](#)

E. Total Purchases from Veteran-owned Businesses – United States



Data notes and analysis:

In 2014, we began reporting purchases from veteran-owned businesses. Prior year data is only available for 2013.

Also see:

› [Supplier Diversity](#)

F. Total Tier 2



Also see:

› [Our Supply Chain Strategy](#)

Data

A. Working Conditions Training and Assessment Status for Supply Chain

Working Conditions Assessments (as of 12/31/15)	Americas	Asia Pacific	Europe	Middle East & Africa	Global Total
Average violations per assessment	11.5	13.2	12.7	6.7	12.3
Assessments completed to date	393	522	108	48	1,071
Follow-up assessments completed to date (third party and/or internal)	493	548	139	52	1,232

Working Conditions Assessments (as of 12/31/15)	Americas	Asia Pacific	Europe	Middle East & Africa	Global Total
Training sessions conducted to date	76	52	24	9	161
Total number of attending companies	1,040	871	363	104	2,378
Total number of trained managers (attendees)	1,638	1,086	631	168	3,523

Working Conditions Training (Scope of Impact: Supplier-Submitted Data as of 12/31/15)	Global Total
Training cascade to management, individuals trained	31,034
Training cascade to workforce, individuals trained	630,218
Communication to suppliers, number of sub-tier companies	131,794

Also see:

› [Supplier Training and Education](#)
› [Auditing Our Suppliers](#)

COMMUNITIES

Engaging with, and investing in, the communities in which we operate.

Community Engagement and Investment

Our global company is only as strong as the local communities in which our employees and customers live and work. It is therefore in our mutual interest to work with them, and invest in them, to improve quality of life.

Our Approach

Ford's support for the communities in which we operate is aligned with our company goals and our One Ford plan, which includes our ambition to build a better world. This goes beyond just donating money to good causes. It's about building long-lasting partnerships to address the challenges people in our neighborhoods face, helping meet basic needs such as food and shelter, improving educational opportunities, and contributing to emergency relief and disaster response.

OUR PERFORMANCE

Ford's contributions to community activities in 2015 totaled

\$55.6 million.

› [Charitable Contributions Data](#)

As our business grows, so does our community investment and volunteering efforts:

- Through \$55.6 million of direct corporate charitable giving, including \$37.2 million made through our community investment arm, the Ford Motor Company Fund
- Through the Ford Volunteer Corps, which organizes the volunteering efforts of thousands of current and retired employees

Our dealer network and Ford Motor Credit Company also make significant investments in their communities.

In recent years, we've developed a more integrated approach to managing our community involvement: one that aligns our community relations programs, our community impact assessments, and our key sustainability and business priorities. This approach involves:

- **Respecting human rights:** Across the world, we seek to make a positive contribution to human rights, a fundamental aspect of our license to operate and vital for maintaining the trust of local communities. We continue to ensure that everything we do demonstrates respect for our suppliers, employees and neighbors. (For more information, see the [Governance](#) and [Supply Chain](#) sections.)

IN THIS SECTION

- [Community Engagement and Investment](#)
- [Building a Better World: Our Community Projects](#)
- [Employee Volunteering](#)
- [Dealers in Our Communities](#)
- [Data](#)

- **Sustainable water stewardship:** As well as demonstrating our commitment to efficient water stewardship in our own operations, we're also committed to addressing water issues beyond our factory gates, especially in water-stressed regions. As illustrated by our support for the UN Global Compact CEO Water Mandate, we have a comprehensive water strategy based on the environmental and social risks and opportunities in our local communities, and work with stakeholders to promote access to water, sanitation and hygiene (WASH) services.

Assessing Our Impact

In 2015, our contributions to community activities totaled \$55.6 million – an annual increase of \$10 million (22 percent). This included 186,000 volunteering hours in support of good causes through Ford-sponsored projects.

However, beyond our charitable contributions and volunteering hours, our understanding of the total impact of our community investment is often anecdotal. To help address this, we're working to improve our ability to measure this larger positive impact in a more holistic manner. For example, our volunteering efforts during 2015 positively affected 428 nongovernmental organizations in a variety of ways. Our goal is to better capture this kind of impact in simple, measurable terms.

Building a Better World: Our Community Projects

To increase the impact of our community investments, we focus our activities on three key areas: local community life, sustainable innovation in education and driver safety.

Operation Better World

In 2015, we extended the global reach of Operation Better World, a coordinated, strategic approach that underscores Ford's commitment to strengthen local communities. Launched in 2012, the program has now reached 41 markets, having been introduced to our Middle East & Africa region during 2015.

Through Operation Better World, Ford Motor Company Fund and Community Services ("Ford Fund") works with dealers, nongovernmental organizations and community partners, driving sustainable community development through strategic investments in:

Community Life

Strengthening our local communities through hunger relief, poverty alleviation and environmental initiatives such as water conservation.

› [Read more](#)

Education

Driving sustainable innovation in education through scholarships, grants, entrepreneurial education and programs that enhance learning.

[› Read more](#)

Driver Safety

Improving driver safety through Ford Driving Skills for Life, the flagship program of our efforts to improve safety on the road.

[› Read more](#)

Ford Fund

OUR PERFORMANCE

To date, Ford Fund has invested

\$1.5 billion

in communities around the world.

Our volunteering efforts and philanthropic investments are overseen and coordinated by Ford Fund. This nonprofit organization, funded by contributions from Ford, seeks to support programs that meet local community needs, align with the One Ford business plan, have a measurable impact and, where possible, are replicable in other markets. The grassroots engagement is driven by local Ford teams in each region.

Ford Motor Company Fund – 2015 Contributions

	\$ million
Community Life	19.9
Education	9.9
Driver Safety	7.4
Total	37.2

Case Study:

HENRY FORD ENTREPRENEURSHIP ACADEMY

Ford Fund launched the Henry Ford Entrepreneurship Academy (HFEA) in Rabat, Morocco, in December 2015, in partnership with the Virginia Commonwealth University (VCU). Working with the VCU's School of Business Entrepreneurship Program, we helped research, design and build the academy, which is hosted by the International Institute for Higher Education in Morocco.

The HFEA runs workshops for local entrepreneurs, giving them the tools and the mindset they need to positively impact their local communities with their own businesses. The HFEA plans to expand to Saudi Arabia in 2016.

[› MIDDLE EAST & AFRICA: Supporting Entrepreneurs in Morocco](#)

Ford Credit's Community Investments

Ford Motor Credit Company ("Ford Credit") is a wholly owned subsidiary of Ford Motor Company, offering automotive financial services to dealerships and customers around the world. Ford Credit's long-standing commitment to its local communities ranges from employee volunteering to structured work experience programs for young people.

Community Life

Helping to strengthen the communities in which we operate and understanding their needs have been priorities since Henry Ford started the company more than 100 years ago.

Community Programs and Initiatives

This, the broadest of our strategic priorities, spans efforts focused on hunger relief and poverty alleviation, infrastructure improvements, and support for elderly, disabled and other underrepresented populations. Community life also includes our environmental initiatives, with a particular focus on water conservation and access to water and sanitation.

Many of these programs are conducted through Operation Better World, our global program to strengthen communities through collaboration with dealers and nonprofit partners.

- The Ford Resource and Engagement Center (FREC) in Detroit is an innovative model of community service and neighborhood involvement. Working with a team of nonprofit partners and Ford volunteers, we feed the hungry, assist with tax and financial questions, and educate and entertain thousands of residents. Three years after opening, FREC provides a three-fold return on investment. We're planning to open additional centers around the world, and launch new education and technology programs for multicultural communities.
- Elsewhere in the United States., Ford Fund supports military veterans and their families through the DAV Transportation Network and Winter Sports Clinic, Honor Flights to Washington, D.C., and sponsoring scholarships for veterans and their families through the American Red Cross Nurse Assistant Training Program.
- We are also taking our Ford Freedom Unsung program to a national level by collaborating for the first time with the Tom Joyner Foundation to celebrate heroes in the African American community.
- In Europe, Ford Fund is helping to provide support as the continent copes with its biggest refugee challenge in 50 years. Ford is responding with humanitarian and financial assistance to provide services for the thousands of new families arriving in the region.

Increasing Our Focus on Water Projects



In 2015, we increased our focus on water-related projects, funding initiatives that provide clean drinking water facilities in many communities near our operations. Our Ford Volunteer Corps prioritized water-based community projects in 37 countries during our Global Caring Month.

Education

Education is a key factor in determining individual and community success and prosperity, and is a building block for a sustainable society. Ford Fund is committed to supporting grassroots initiatives that drive innovation, create opportunity and increase access to education.

Ford Fund donates approximately \$10 million, about 27 percent of our funds, to education each year. Innovation in education is encouraged through the [Ford Blue Oval Network](#), a web-based network for college students who have participated in Ford Fund-supported programs. We also have a range of other programs that enhance high school learning and provide college scholarships and university grants.

For example, **Ford Next Generation Learning (NGL)** is recognized across the United States for its innovative, coordinated approach to helping students develop real-world skills. Innovative thinking drives the program, which works with more than 30 communities around the country to launch career-themed high school academies in engineering, manufacturing and technology (among other areas). NGL is adding new communities to its national network and launching Powered by Ford STEM Academies in Detroit and Louisville to teach manufacturing and engineering in U.S. high schools.

The **Ford Driving Dreams** program has invested close to \$2 million in education programs and awareness initiatives. In the United States, the Ford Driving Dreams Tour promotes high school graduation and college enrolment among Latino youth. The tour broadened its reach into the Hispanic community in January 2016, with contests and scholarships in the Dallas area designed to boost graduation rates in districts with significant Latino populations. New scholarships for eligible seniors at selected high schools across San Antonio and Houston were announced in February 2016.

› [NORTH AMERICA: Ford Driving Skills for Life](#)

In addition:

- Ford India's Happy Schools program is growing, with new classrooms, better sanitation facilities and improved play areas
- In Europe, we are expanding our scholarship and vocational programs in the United Kingdom, Germany and Romania

Case Study:

FORD COLLEGE COMMUNITY CHALLENGE

The Ford College Community Challenge ("Ford C3"), run in partnership with Ford Fund and nonprofit organization Enactus, is a global competition that funds student-led community projects around the theme "Building Sustainable Communities." Through the initiative, a select number of [winning proposals](#) for addressing pressing needs in local communities are selected for financial and programmatic support.

Joining schools and colleges in Brazil, China and the United States that are already involved in the scheme are four countries in Africa – Ghana, Kenya, Morocco and South Africa – which Ford introduced to the initiative in 2015.

› [MIDDLE EAST & AFRICA: Encouraging Innovative Social Projects in Africa](#)

Case Study:

RAISING AWARENESS OF BREAST CANCER



With one in eight women predicted to develop invasive breast cancer, Ford has committed more than \$128 million to support breast cancer patients over the past 21 years through its global Warriors in Pink program.

Sales of Warriors in Pink clothing and merchandise have contributed significantly to this amount, and all net profits are donated to one of four organizations:

Susan G. Komen, the world's largest breast cancer charity

- Dr. Susan Love Research Foundation, which funds research into causes and prevention
- The Pink Fund, which provides financial aid to patients
- Young Survival Coalition, which educates and empowers young women fighting the disease

We also aspire to raise awareness and support patients emotionally through our 'Models of Courage' campaign, which shares the inspirational stories of breast cancer survivors.

› [MIDDLE EAST & AFRICA: Breast Cancer Awareness in the Middle East](#)

Driver Safety

As an automotive company, the safety of drivers, passengers and pedestrians is an obvious priority for us. Our efforts to improve driver safety include our global flagship program, Ford Driving Skills for Life.

Ford Driving Skills for Life

The centerpiece of our commitment to new drivers, [Ford Driving Skills for Life \(Ford DSFL\)](#) is a free, interactive safety training program focused on addressing inexperience, distractions and impaired driving. We established Ford DSFL in 2003, along with the Governors Highway Safety Association (GHSA) and a panel of safety experts, to teach newly licensed drivers the necessary skills for safer driving, and the importance of making good decisions behind the wheel. Through hands-on courses, classroom material and a website with an interactive training center called The Academy, the core curriculum focuses on vehicle handling, hazard recognition, speed management and space management.

In North America and Europe, Ford DSFL programs help teenagers – the primary age group of first-time drivers – drive more safely. And in many Asian, Middle Eastern and African markets, the number of people of all ages who are driving a car for the first time is increasing rapidly as more people are able to afford vehicles. In these markets, Ford DSFL is aimed at novice drivers of all ages.

Progress in 2015

OUR PERFORMANCE

Ford DSFL will have reached

1 million

drivers in 35 countries by the end of 2016.

In 2015, we delivered hands-on safety training to nearly 25,000 Ford DSFL participants around the world. Our global program of face-to-face and web-based training has reached more than 800,000 young people and newly licensed drivers. Ford DSFL also reached another milestone in the United States, completing hands-on training in all 50 states. Our global reach spread further during the year, with first-time programs in the Netherlands, Denmark, Turkey, Mexico, Australia, Qatar and the UAE. The safe driving message will reach Argentina, Bahrain, Finland, Oman, Poland and South Korea in 2016, while India will launch a program focusing on driver courtesy and safety.

[› MIDDLE EAST & AFRICA: Promoting Safer Driving in Oman](#)

Case Study:

DRUGGED AND DRUNK DRIVING SUITS



To educate teens and new adult drivers about the dangers of driving while under the influence of prescription or over-the-counter drugs, as well as marijuana, we have added [Drugged and Drunk Driving Suits](#) and goggles to Ford DSFL's U.S. curriculum. Students attending ride-and-drive events during 2016 will wear both suits to understand how being impaired can slow movement, reduce reaction times, and affect vision and coordination.

[› NORTH AMERICA: Ford Driving Skills for Life](#)

Employee Volunteering

Volunteerism has been an integral part of Ford since its creation in 1903. We encourage our employees to participate in programs that strengthen the communities in which we operate through the Ford Volunteer Corps.

Ford Volunteer Corps

Operating across six continents, the Volunteer Corps was launched by Bill Ford in 2005. It was set up in the aftermath of the devastating Indian Ocean tsunami, when employees from Ford Thailand mixed concrete, made roof tiles, dug foundations and built walls to help villagers start to get their lives back on track. That spirit has grown into a highly coordinated global network of current and retired Ford employees who help children read, fight hunger or deliver clean water.

IN 2015, FORD UTILIZED:

34,000+

Ford volunteers

1,700+

community projects a year

SINCE 2005, FORD VOLUNTEER CORPS HAVE AMASSED:

250,000+

volunteers

48

countries

1.2 million

hours of volunteering

10,750

community service projects

\$29 million

equivalent in-kind corporate contributions

OUR PERFORMANCE

In Germany, 2015 was a record year for employee volunteering, with 170 projects and a

70% increase

in participation.

To maximize the two paid workdays we offer salaried employees each year to volunteer in the community, we've developed a "matchmaking" software system. Through this, our nonprofit partners can inform us when and where they need help, and employees can sign up online for opportunities based on their interests, skills and availability. We are continuing to strengthen our data-collection capabilities, especially outside the United States, and to enhance the employee user experience.

Our Volunteering Programs

We've focused our efforts to date through Ford's Global Week of Caring and four annual Ford Accelerated Action Days (AADs). We also introduced two new initiatives in September 2015, strengthening our leadership in community service and tapping into a growing interest among younger employees to become more involved in their communities.

Ford Global Caring Month



Ford's Global Week of Caring has been one of the signature programs of the Ford Volunteer Corps for a decade, with a week of volunteer events across all our operating regions every year. But in September 2015, to mark our 10th anniversary, we expanded the program significantly. Nearly 20,000 current and retired employee volunteers participated in close to 500 projects in 37 countries in our very first Ford Global Caring Month. This included:

- Helping provide safe drinking water in Argentina, Mexico, the Philippines and South Africa
- Working on school improvement projects in Brazil, India and Thailand
- Assisting refugee families in Germany
- Renovating a care center for children with disabilities in the United Kingdom

We also reached Sub-Saharan Africa for the first time in 2015, where more than 1,000 employees spent 9,000 hours on 30 projects.

Accelerated Action Days



Ford AADs are one-day volunteering sessions designed to meet critical needs identified by our nonprofit partners. During the year, our four 2015 AADs focused on supporting children and families, the environment, community building and feeding the hungry. In 2015, more than 11,000 Ford volunteers across 19 U.S. states participated in around 1,100 community projects.

Bill Ford Better World Challenge

Established in September 2015, the Bill Ford Better World Challenge is a new global grant program that will award up to \$500,000 to community service projects identified by company employees. Jointly funded by the company and Executive Chairman Bill Ford, the initiative will work alongside the Ford Volunteer Corps.

Under the program, employee volunteers can apply for funding for community service projects. To be eligible, the projects must seek to create sustainable solutions in one or more of three categories: mobility; basic needs such as food and shelter; and issues related to water, sanitation and hygiene. Funding for up to three projects is expected to be awarded by the middle of 2016.

› [VIDEO: Ford Volunteer Corps 10th Anniversary](#)

Thirty Under 30

At the same time, Executive Chairman Bill Ford announced Thirty Under 30, a millennial initiative in which 30 employees under the age of 30 will learn more about civic engagement and leadership skills, with a focus on philanthropy and volunteerism. The year-long program, initially being trialed as a pilot in the United States, will pair the chosen employees with relevant nongovernmental organizations so that both Ford and charitable nonprofit organizations can benefit.

More than 300 Ford employees applied to be part of the inaugural Thirty Under 30 class. The field was initially narrowed to a shortlist of 50 employees, who each produced a [video](#) as part of the selection process.

"Younger generations have shown they see community building as part of their career goals. With Thirty Under 30, we are not only helping our younger employees work with nonprofits, we will learn from them how to design corporate philanthropy in the future."

Jim Vella

President, Ford Motor Company Fund and Community Services
Financial support

› [VIDEO: 30 Under 30 – Bill Ford Welcome Luncheon](#)

OUR PERFORMANCE

We contributed

1 million

in mini-grants to support our employee volunteer projects in 2015.

Financial Support

Ford Fund provides mini-grants to purchase the tools, supplies and materials needed to help volunteers complete their projects. As both the business and our community efforts continue to expand, the amount of financial support we provide has also grown. Having started the program in 2012 in the Asia Pacific region, we now give small grants to volunteers in Europe, South America, Mexico and the Middle East, and we celebrated the program's 15th anniversary by expanding to North Africa in 2015.

› [MIDDLE EAST & AFRICA: Helping Our Communities in the Middle East](#)

Dealers in Our Communities

Ford and Lincoln dealers represent the public face of Ford and provide important economic and social contributions beyond employment and taxes. We recognize their hard work and dedication through our annual Salute to Dealers program.

Salute to Dealers

The Salute to Dealers scheme demonstrates our commitment to dealers who provide outstanding products and services, and help those in need in their neighborhoods. Those nominated and honored are selected from thousands of Ford and Lincoln dealerships across the globe.

We're very proud of the contributions made by those nominated for this award, and the 100 men and women selected as honorees since the program was launched in 2001.

In 2016, we recognized the generosity and community spirit of the following dealer principals:

A Tireless Advocate of Social Causes



**Renato Costa, Forauto Veículos Ltda,
Criciúma, Brazil**

As a tireless advocate of social causes in his community, Renato is personally and financially involved with the "Asilo São Vicente de Paulo" (Asylum St. Vincent de Paul), which seeks to preserve the freedom and dignity of the community's aging population through daily care and medical, psychological and nutritional assistance. Renato and his dealership employees also assist the community's "Bairro da Juventude" (Youth Neighborhood), which offers psychosocial support to more than 1,500 children, teenagers and their families.

Raising Funds and Awareness



**Bill E. Currie III, Bill Currie Ford,
Tampa, Florida, United States**

Bill E. Currie III and his family display an unwavering passion for helping the local community, with the Children's Cancer Center and All Children's Hospital among the regular beneficiaries. The family also raises awareness and funds for good causes, including the Ford Drive 4 UR Community events with local sports teams. As longtime supporters of the military community and first responders in the area, dealership employees wear red shirts each Friday as part of their Remember Everyone Deployed program. Bill's dealership also sponsors programs that recognize the achievements and sacrifices of local military, law enforcement and firefighters.

Building a Foundation for Opportunity



**Phanee Piticharoenkit, Ford Pattani,
Pattani Province, Thailand**

Most of Phanee Piticharoenkit's benevolent efforts are channeled through the Chookiat Piticharoenkit Foundation, established by her father and funded by the Piticharoenkit family. The foundation has made many capital contributions to schools and universities in the region, and provides scholarships to help underprivileged students maximize their potential and live productive lives. The foundation also supports the main hospital in Pattani Province, by funding facility expansions, including a bridge to improve access to the hospital. It has also funded a range of equipment for streamlining patient treatment and for providing specialized diagnostic services.

A Community Role Model



**Rhett C. Ricart, Ricart Ford,
Columbus, Ohio, United States**

Rhett C. Ricart and his family are active supporters of the local Ronald McDonald House Charities of Central Ohio, and he promotes a public concert with the Trans-Siberian Orchestra every year, which has raised more than \$20,000. The many schools, charities and nonprofit organizations that receive media support, financial assistance and employee resources from Rhett include the Musicians Against Childhood Cancer Bluegrass Festival for St. Jude Children's Research Hospital. He also encourages employee volunteerism at his dealership by offering paid days while on location in support of a charity of their choice.

The Spirit of Giving and Caring

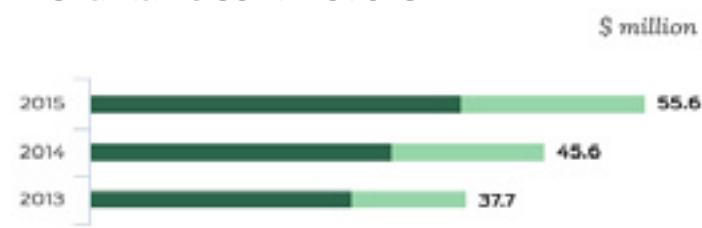


Mike Stollery, Barrie Ford, Barrie, Ontario, Canada

Mike and his team give their personal and financial support to many worthy organizations, with a focus on health, education, children's issues and social services. Mike's philanthropic efforts include supporting local food banks, and giving time and funds to Gilda's Club (a cancer support center), local hospitals, the Children's Aid Society and Canadian Forces Base Borden. As well as awarding scholarships and bursaries, he chairs the Power of Education \$40,000,000 capital campaign at Georgian College. In the spirit of giving and caring, Mike also sits on the board of the Automotive Business School of Canada and mentors students interested in the automotive sector.

Data

A. Charitable Contributions



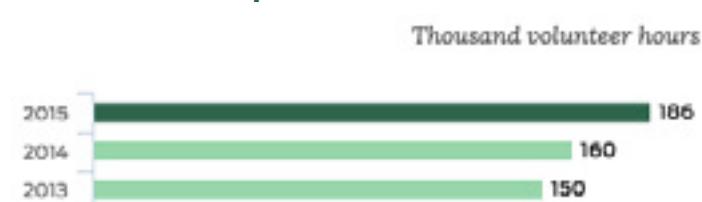
Key:

- Ford Motor Company Fund
- Corporate

Also see:

› [Community Engagement and Investment](#)

B. Volunteer Corps



Also see:

› [Employee Volunteering](#)

OUR PEOPLE

Driving our success and achieving our goal of delivering profitable growth for all.

Working at Ford

Our global workforce, and the dealers who sell our vehicles, play an important role in achieving our One Ford goal of delivering profitable growth for all.

WORKFORCE PROFILE

As global demand for our products continues to grow, we rely ever more on the skills and talents of our dedicated employees.

199,000

Ford employees

67

facilities across six continents

CREATING AND RETAINING JOBS

As at December 31, 2015, we employed approximately 12,000 more individuals around the world than at the end of 2014. This growth in jobs is largely associated with new product launches and expansions at our existing plants.

\$9 billion

investment in our United States plants

8,500

jobs created or retained during the next 4 years

In late 2015, we announced:

\$1.3 billion

investment to upgrade our Kentucky Truck Plant

2,000

jobs will be created or retained there at the plant

Number of employees

2013	2014	2015
181,000	187,000	199,000

> [Workforce Profile Data](#)

IN THIS SECTION

- [Working at Ford](#)
- [Our Approach](#)
- [Health and Safety](#)
- [Diversity and Inclusion](#)
- [Employee Engagement and Satisfaction](#)
- [Attracting and Retaining Talent](#)
- [Learning and Development](#)
- [Working With Ford – Dealers](#)
- [Data](#)

Collective Bargaining Agreements

When we generate profits, our employees benefit. In 2015, we generated a record full year pre-tax profit.

Unions are key business partners and, through collective bargaining agreements, they help us to provide a safe, productive and respectful workplace.

In the United States, approximately 99 percent of hourly and 1.5 percent of salaried employees are represented by the [UAW](#). Most hourly employees and many non-management salaried employees beyond the United States also have union membership.

We faced many challenges and opportunities in 2015, from managing growth and operational restructuring to new business partnerships and evolving union dynamics. During the year, we entered into a four-year collective bargaining agreement with the UAW covering approximately 53,000 employees in the United States. As well as providing us with opportunities to improve our productivity, the terms of the agreement effectively close the North American labor gap to General Motors (GM), and substantially close the gap to Fiat Chrysler Automobiles (FCA).

We are also party to collective bargaining agreements (covering wages, benefits and/or other employment provisions) with unions in Argentina, Brazil, France, Germany, India, Mexico, New Zealand, Romania, Taiwan, Thailand and the United Kingdom. In 2016, we will negotiate our agreements in many of these markets, as well as agreements in Canada, Italy, Russia and South Africa.

Our Approach

Underpinned by a skilled and motivated HR team, our efforts are designed to create a great place to work, and build a capable and effective workforce.

Our vision is to be recognized for world-class HR excellence and business partnerships.

Our mission is to deliver high-impact, innovative workforce solutions and experiences that drive One Ford, today and tomorrow.

Our Strategic Priorities

Creating a Great Place To Work

Throughout the world, we want to make Ford an employer of choice, offering competitive compensation and benefits, challenging and rewarding work, and the opportunity to be part of a leading company with a diverse workforce and great products.

We will do this by:

- Providing a healthy and safe working environment for employees, contractors and visitors to our facilities
 - > [Health and Safety](#)
- Fostering a diverse workforce and an inclusive culture in which everyone feels valued and respected
 - > [Diversity and Inclusion](#)
- Regularly engaging with employees to better understand what they value about being part of Ford
 - > [Employee Engagement and Satisfaction](#)

Building a Capable and Effective Workforce

To compete for potential recruits and ensure our future success, we have been standardizing, simplifying and integrating our talent management processes.

This has involved:

- Increasing our efforts to find and hire the people our business needs, both now and in the future
 - > [Attracting and Retaining Talent](#)
- Providing effective training and relevant professional development opportunities to help our people to achieve their full potential
 - > [Learning and Development](#)

Using Technology Solutions

We use leading-edge technology to support flexibility and collaboration across our workforce, enable data collection and analytics on a global scale, and to enhance the experience of our customers.

Having found it challenging to coordinate across many regions and IT systems in the past, we have been developing Genesis, an innovative HR technology platform, to help us better meet the needs of our people and enable better decision making.

The Genesis Pyramid

Through Genesis, in 2015, we improved our capability for managing human resources in the following areas:

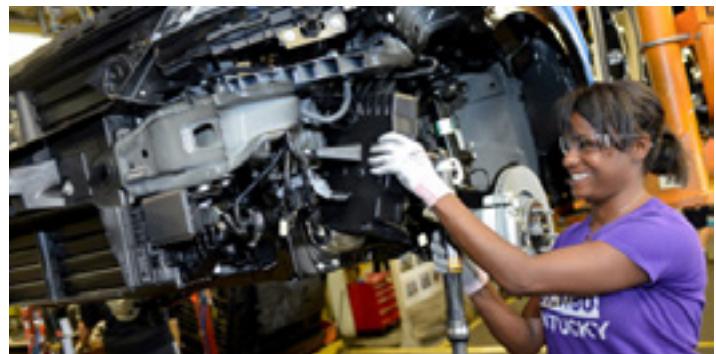
- **Integrated global reporting:** The phasing in of this new platform will allow us to better manage and report data across our entire salaried workforce and introduce standard reporting templates to inform decision making.
- **Human capital analytics and forecasting:** In line with our strategy for using big data and analytics to help us run our business, make decisions and solve problems, we are applying the same approach to build our global capability in workforce planning. By leveraging data from our workforce systems, we can draw insights from everything from recruitment to retention to relocation.
- **Strategic workforce planning:** Our Business Strategy, Operations and HR functions are working together to assess our current workforce and to develop talent management plans. A number of pilots are currently ongoing, one of which involves Ford's U.S. recruiting operations working with our new Workforce Planning and Analytics (WP&A) function. By examining where we recruit from and what experiences the candidates have, we can understand what is working well, what could be more effective and how we can attract the best talent.



Health and Safety

Our aim is to continually improve the health and safety of our workforce. To protect our people, we have put robust policies and practices in place throughout our operations.

Managing Health and Safety



We remain totally committed to ensuring that our people stay safe and healthy. Our President and CEO, our senior operating team, global Manufacturing Operating Committee and regional occupational health and safety (OHS) committees all assess safety performance as part of their regular business plan reviews.

Accountability for health and safety performance is established through business planning, policy deployment and scorecard processes. Business operation and plant managers are responsible for health and safety in the operations they manage. Safety performance is also part of the scorecards of salaried employees where appropriate, including those of the CEO and business unit leaders.

Our efforts are guided by our OHS policy, established through a corporate Policy Letter and Directives, and our global OHS standards cover all health and safety issues, from workplace safety to ergonomics, and occupational hygiene to toxicology.

Safety is also one of the core components of the Ford Production System. Our Safety Operating System (SOS), part of our overall manufacturing strategy, provides for the health and safety of our employees.

Most of our manufacturing facilities also have joint union/management safety committees that guide the development and implementation of safety programs. In addition, nonmanufacturing sites are required to conduct six-monthly self-assessments of their OHS risks and performance, the results of which are reviewed with global manufacturing leadership.

Together, these mechanisms provide data on our health and safety performance, demonstrating our progress and helping to identify areas for improvement.

Reinforcing Our Safety Culture

Meeting our health and safety goals requires a strong safety culture among our leaders, our workforce and our contractors.

Our safety vision is to achieve no fatalities or serious injuries, and to protect and continually improve the health of our workforce.

Encouraging Safe Behavior

The company recognizes the need for effective communication to reinforce our commitment to health and safety and to engage all employees to continually improve understanding and adherence to safety programs and policies.

To reinforce safety messages, we also use a variety of channels, from our internal video broadcast system to messages from senior executives. In addition to regular safety talks, we periodically hold safety stand-downs, when we shut down production at our plants to focus attention on a key safety message. We can communicate almost instantaneously with health and safety specialists worldwide, alerting those at similar facilities when a significant incident occurs so appropriate preventive action can be taken.

We have also introduced the START Card, a process whereby workers can identify when to conduct pre-task briefings and safety assessments, discuss hazards and controls when a formal analysis isn't required, and agree the conditions that would require work to stop.

Increasing Personal Accountability

In an attempt to improve personal awareness of safety, our "Faces of Safety" videos tell the real-life stories of employees who were injured – or had a near miss – at work. They are aimed largely at skilled tradespeople, who face the highest risk of serious injury. The videos remind them of the impact that ignoring safety rules can have on themselves, their colleagues and their loved ones.

- › [VIDEO: Faces of Safety – Cell Phone Safety](#)
- › [VIDEO: Faces of Safety – In a Split Second](#)
- › [VIDEO: Faces of Safety – Safety tips – slips, trips and falls](#)

Monitoring and Managing Risks

We encourage all employees to alert management to every injury or hazard, no matter how small, so that we can take corrective actions and create a safer workplace for everyone. In 2015, we had 205 high-potential reported events that could have had serious consequences, but didn't. Each incident was investigated, and we implemented a number of preventive measures, such as engineered solutions to eliminate the hazard and improved control plans to eliminate risks, as a result. In line with our increased focus on risk anticipation, we will continue to encourage the identification and collection of these preventable events in our data systems.

In the year ahead, we will continue to upgrade our information technology to track workplace injuries, incidents and causal factors. The system we are developing will be fully operational during 2016, and will focus on anticipating risks and developing preventive action plans. We are also looking at how to collect data from, and share information with, our contractors to address potentially fatal events.

Case Study:

FORD'S LIFESAVERS

To make continual progress toward zero fatalities and injuries, we rely on the skills of our local emergency response teams. In the past year, 26 lives were saved as a direct result of the quick actions of our first responders. The team members credited for these life-saving actions are recognized in the annual Provincial Health Services Authority Awards. The 105 award recipients recognized in 2015 include:

- The emergency response team in Cologne, Germany, who successfully resuscitated an unresponsive heart attack victim
- Emergency responders at our Louisville Assembly Plant, who used CPR and an automatic external defibrillator to save the life of a co-worker who had suffered a cardiac arrest
- Personnel at the Hermosillo Assembly Plant, who assisted with response to a fire at another facility nearby

From Response to Prevention

To achieve continued improvement and excellence, our efforts to make safety a core value across our operations go beyond injury and risk response, toward prevention. Leveraging the One Ford behaviors of working together, caring for each other and creating a supportive environment, this shift in mindset has also required significant changes to our data systems. We are using "leading" metrics and data, such as potentially serious incidents without injury and closure time for identified safety improvements by employees, in our safety scorecard for the first time in 2016.

To reduce the likelihood of risks, we strive to engineer them out from the start. Our global manufacturing engineering teams use "virtual manufacturing" technology to predict and eliminate risks during the design stage. The global manufacturing teams implement safety enhancements at all phases of new model launches from concept, through design, build and installation, to run-off.

Good relationships with our stakeholders are also crucial for the identification, analysis and elimination of potential risks. Globally, we continue to collaborate with our unions to help individuals take greater responsibility for addressing unsafe behaviors, and maintain external relationships with regulatory agencies and professional organizations such as the U.S. Occupational Safety and Health Administration.

Our Safety Record

2015 was the sixth consecutive year of zero fatalities among Ford employees, while another of our main safety indicators, the lost-time case rate, now stands at 0.43. This compares favorably with the U.S. industry average (see below).

Lost-Time Case Rate

	Cases per 200,000 hours worked		
	2013	2014	2015
Ford Global Rate	0.44	0.38	0.43
U.S. Motor Vehicle Manufacturing (NAICS 3361/SIC 3711)	1.4	1.9	1.6

Contractor Safety

While we have had no fatalities among Ford employees for six consecutive years, we have had contractor fatalities and serious injuries at our premises. This loss of life is unacceptable, and we continue to do all we can to promote a culture of safety among the thousands of contractors and vendors who work on our property.

Benchmarking Our Performance

Internal benchmarking helps us to replicate best practices from around the business, as identified by our annual President's Health and Safety Award program, and share the attributes that drive health and safety excellence.

External benchmarking helps us to achieve best-in-class performance. We participate in multi-industry groups, which include automotive industry peers, as well as companies from other sectors, which share information on safety performance, industry trends and prevention actions. The senior safety leaders at Ford, GM and Chrysler also routinely meet to discuss opportunities to collaborate on solutions to current issues.

Health and Well-Being

The continued good health of our workforce and their families remains a priority for us, as well as a key driver of performance. We are committed to the ongoing evaluation and improvement of programs that promote the well-being and productivity of our employees.

Managing Employee Health

Our health vision is to foster knowledgeable employees, engaged in their own health and well-being, to Go Further at work, home and into retirement.

Globally, our One Ford health care strategy is designed to help people to be at their best at work, at home and into retirement. We tailor our health screenings, educational programs and promotional campaign efforts to meet local priorities, and use global health metrics to assess the health of our workforce and track the effectiveness of our programs. We recognize the impact that health issues such as heart disease, diabetes, smoking and obesity can have on our Ford family. Around the world, the cost of health care insurance to our employees is significant, so helping them to avoid serious diseases and effectively manage chronic conditions has a positive impact on their quality of life and our success. And since families tend to share good habits, promoting health among our employees also contributes to healthier communities in general.

Our Health Care Programs



In the United States, health care availability and affordability continue to cause concern. To maximize productivity and affordability, we support programs that keep our employees fit and well, and provide resources to help them make informed choices about health care services. U.S. salaried workers who participate in our annual wellness requirements gain a better understanding of their health status and benefit from lower insurance out-of-pocket costs. In 2016, this applies to more than 80 percent of salaried employees and retirees.

For hourly workers, we are partnering with the UAW and Southeast Michigan health care providers on a three-year pilot, the Enhanced Care Program, to treat health in a holistic way. Through a personalized care approach, the program looks for ways to help with chronic health issues and to prevent future problems. Participants have unlimited access to a personal nurse, who coordinates care with the patient's doctor and helps them work towards their personalized health goals. More than 1,200 UAW members and non-Medicare retired members joined the voluntary pilot. A formal evaluation of this pilot will be delivered in 2016.

Diversity and Inclusion

We seek to embrace diversity and inclusion at every level of the company, and take pride in a workforce that reflects the communities in which we live and work.

Diversity Matters

From the top down, Ford embraces diversity and inclusion. The different backgrounds, opinions, experiences and perspectives of a diverse workforce make us a stronger business, and help to foster a truly collaborative workplace.

As an equal opportunity employer, Ford considers all qualified applicants for employment without regard to race, religion, color, age, sex, national origin, sexual orientation, gender identity, disability status or protected veteran status.

We seek to incorporate our diversity into every part of our business, to leverage our skills, compete in the marketplace and serve our communities. Diversity and inclusion is a collaborative effort across our entire enterprise, and requires cross-functional collaboration with employee resource groups (ERGs), Ford Motor Company Fund and Community Services, dealer groups and supplier organizations.

Our Focus Areas

Our diversity and inclusion vision is to have a diverse and inclusive environment that fosters skilled and motivated people working together to drive innovation and deliver results in support of our core business and emerging opportunities.

The inclusive environment we work hard to create enables us to forge high-performing teams that drive business success. It also encourages our employees to:

- Maximize their professional and personal development
- Recognize and respect the whole person
- Value the differences in employees' background, experience, knowledge and skills
- Maximize the benefits derived from a diverse workforce

To achieve our vision, we have identified five strategic areas of focus:

1. Leading the Way

Led by our CEO, our executive leadership team champions diversity and inclusion at Ford, integrating these perspectives into business objectives and human resources processes. In 2015, we named a dedicated Chief Diversity Officer.

2. Diverse Workforce

We support a number of ERGs that help to foster diversity and inclusion. These networks of people with common interests and experiences create cross-functional connections and support professional development. Our ERGs include groups for employees from particular ethnic backgrounds; veteran and military employees; employees dealing with disabilities; female professionals; working parents; gay, lesbian, bisexual and transgender employees; and groups for employees of faith. Supporters of any particular group also are welcome to participate.

3. Respectful and Inclusive Work Environment

One Ford behaviors are communicated via our intranet site and through training, and the winners of our many diversity and inclusion awards are highlighted in internal newsletters and on social media sites. Other resources include employee assistance programs, wellness initiatives, mothers' rooms for nursing mothers and meditation rooms.

4. Worklife Flexibility

Worklife flexibility creates a competitive advantage and addresses the evolving needs of our global, multi-generational workforce. We make options such as reduced and flexible schedules, job sharing and telecommuting available to many employees, and offer WebEx, Instant Messenger and enhanced mobile access. We also use Ford Digital Worker, an IT program that provides our employees with easy-to-use productivity and communication tools. These help to facilitate global connections and communications for creating, sharing and finding information, and integrating personal and worklife priorities.

5. Strategic Partnerships

Our ERGs often organize volunteer activities, providing us with an opportunity to better understand our communities. Partnering with other agencies, recent initiatives include:

- Mentoring, offering scholarships, and providing uniforms and school supplies to underprivileged children
- Collecting and sorting donations of clothing, toys and household items for a range of charities
- Volunteering at local food banks, local hospitals and old people's homes
- Sponsoring local veterans and their families during the holidays
- Sponsoring neighborhood revitalization projects
- Global fundraising efforts for natural disasters, and raising funds to support children in Detroit and India

Our 2015 Diversity Performance

OF OUR GLOBAL SALARIED WORKFORCE:

26%

were female

18%

of managers¹ were female

1. Middle management and above.

OF OUR U.S. WORKFORCE (BOTH HOURLY AND SALARIED EMPLOYEES):

29%

were members of minority groups

22%

were female

OF OUR 15-MEMBER BOARD OF DIRECTORS:

2

are women

2

identify themselves as members of minority groups

OF OUR 44 CORPORATE OFFICERS:

6

are women

8

identify themselves as members of minority groups

We will continue to review and revise our diversity and inclusion efforts to ensure we apply best practices to attract and retain the best people.

More information on our U.S. workforce can be found in the [GRI Index](#).

"Diversity is inherent to our enterprise and inclusion is essential to making diversity a competitive advantage for Ford. Valuing differences within our team enhances our creativity and ability to provide the innovative products our consumers desire, while ensuring a better company and a better future for generations to come. We are dedicated to cultivating an environment that respects the individual strengths, views and experiences of our employees – by accelerating our diversity and inclusion strategy and promoting increased global engagement among our employees and strategic partners."

Meeta Huggins
Chief Diversity Officer, Ford

Recognition and Awards

Our own annual Global Diversity and Inclusion Awards recognize those who exhibit One Ford behaviors, and employees from around the world are increasingly engaged in the nomination process. In 2015, we honored 37 teams and individuals from 12 countries.

We have also received hundreds of awards in the last few years from publications and organizations that recognize the value we place on our employees and our ability to work inclusively. Specific diversity awards given to Ford in 2015/16 include:

- Corporate Equality Index – Human Rights Campaign
- Best Companies for Diversity – Black Enterprise
- Best of the Best: Top Diversity Employer – Black EOE Journal
- Best of the Best: Top Diversity Employer – Hispanic Network Magazine
- Top Diversity Employer – Professional Woman's Magazine
- Employer of the Year – CAREERS & the disAbled Magazine
- Ten Best Companies to Work For – Financial Post (Canada)
- Top 100 Employer – The Globe/Mail (Canada)
- Top 50 Employers – Minority Engineer
- Top 50 Employers – Women Engineer Magazine
- America's Top 50 Organizations for Multicultural Business Opportunities – DiversityBusiness Magazine
- Most Attractive Employer (2015) – Universum (Australia, Brazil, Canada, China, Egypt, Germany, India, Lebanon, Mexico, Saudi Arabia, South Africa, United Kingdom, United States, Global)
- World's Most Attractive Companies (Business/IT/Engineering College Students) – Universum

Thirteen Ford executives were named to Automotive News's list of 100 Leading Women in the North American Auto Industry, which recognizes top female executives at automakers, suppliers and dealerships.

Employee Engagement and Satisfaction

Keeping our employees engaged and encouraging them to stay connected with their peers and communities are key parts of our people strategy.

Communicating With Our People

We believe it's important to communicate with our workforce in timely and efficient ways, and use a range of channels to connect with employees with differing competencies, experience and interests:

- Intranet site @Ford Online
- Our annual Sustainability Report and executive summary
- Social media applications, e.g. Facebook
- Trade union agreements and joint labor-management committees
- Webcasts and executive Q&A sessions with senior management
- Quarterly Town Hall meetings
- Employee surveys
- Employee resource group initiatives
- Mark Fields' video blog

Employee Satisfaction

Each year, we ask our workforce to participate in the Global Pulse and Engagement Surveys, giving us valuable insight into employees' satisfaction with the company, their jobs and other aspects of their workplace experience. They are encouraged to provide honest feedback, and the results are incorporated into our business planning review processes. We also benchmark results and participation rates externally.

We continue to provide managers and supervisors with a report highlighting how their teams and/or plants responded to the Pulse Survey. These are intended to inform discussions and action plans for improvement, and we believe they have made a significant contribution to the steady rise in Pulse scores in recent years. Improving Pulse scores is an annual performance objective for many senior managers.

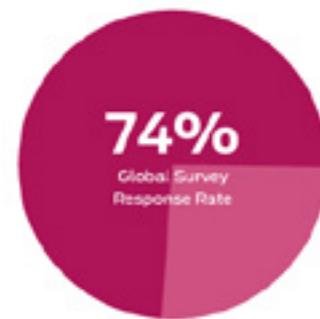
Read more about how worklife flexibility programs contribute to improved employee engagement and satisfaction, as well as increased productivity, and our ability to attract and retain talent.

- › [M2X: Worklife Flexibility](#)
- › [DATA: Employee Engagement](#)

The Pulse Survey

In 2015, we conducted our 18th Pulse Survey. Overall, employees are satisfied with the company and their work groups. Results have improved year over year, and we continue to exceed external benchmarks.

The Pulse is an important source of global feedback



2015 survey administered:

From Aug 24 to Sept 25

In 23 languages

To salaried employees globally

2015 responses represent:

49 countries

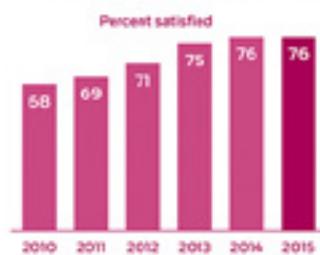
13 skill teams

6 business units

7,000+ work groups

What are employees saying?

Overall, Ford employees are satisfied. Scores continue to improve year over year, indicating a positive working environment in general.



80% of respondents are satisfied with their job

85% of respondents are satisfied with their supervisor

81% of respondents are satisfied with the company

How do we compare?

Ford continues to exceed external scores on the Employee Satisfaction Index (ESI) and all questions that are benchmarked.



Employee, Customer and Ambassador

Our employees are also Ford customers and can be powerful advocates for our products. In Michigan, @Ford Employee Events give staff the opportunity to learn about how our products meet the needs of customers and even test drive our latest vehicles. Our employees can then promote the vehicles to family and friends, helping to increase sales and strengthen our brand.

Attracting and Retaining Talent

Talent management involves attracting the right people with the right skills, engaging effectively with them, and providing learning and development opportunities to help them to fulfil their potential.

Effective Recruitment

To support our core and emerging business model, we are hiring talent around the globe to deliver high-impact, innovative workforce solutions and experiences. When recruiting we use smart and mobile technologies, including social media, to improve process efficiency and create positive candidate experiences.

Case Study:

PALO ALTO STAFFING

To support our Ford Smart Mobility plan, we established our Palo Alto Research and Innovation Center in January 2015. About 100 people, including new hires and internal transfers, are now based there.

HR business partners and Ford's Corporate Compliance Office have engaged with our operations to understand business needs and align them with our internal practices to ensure we remain competitive in the marketplace. In addition, Palo Alto facilities support innovation through technology-enabled collaborative work environments that encourage teamwork.

Collaborations and Partnerships

To help attract a diverse range of qualified job candidates, we partner with professional organizations when recruiting in different regions, and seek to build relationships with top universities to help find the best students and recent graduates. In many cases, our executives visit campuses to share company information and listen to the next generation of potential automotive leaders.

For example, we have run a graduate/internship program with leading universities in China, including Shanghai Jiao Tong University (SJTU), Tsinghua University, Nanjing University of Aeronautics and Astronautics (NUAA), Chongqing University (CQU), and University of Science and Technology Beijing. The students come to our Research and Innovation Center in Dearborn for internships lasting between six months and three years.

So far, 28 students have completed the program, with nine currently working as interns, and nine have been hired through the internship program: seven in our Research and Engineering Center in Nanjing and two at our Asia Pacific headquarters in Shanghai. In addition, six young faculty members from NUAA, SJTU and CQU have completed their internships at Dearborn.

Our Talent Pipeline

To help strengthen our employee pipeline, we invest in STEM (science, technology, engineering and math) and scholarship programs. We hope this will inspire an interest in technology and innovation, critical to both Ford and society in general, among schoolchildren across the globe.

Our mission is to develop and deliver innovative, aligned STEM programs for students and educators around the world. These are intended to leverage employees and strategic partnerships that nurture technical talent, supporting our commitment to make the world move better. Our corporate STEM department coordinates all programs, and addresses any gaps in the pipeline.

In pursuit of our ambition, we have identified four strategic areas of focus:

- Develop a robust, diverse **STEM talent pipeline** through powerful, sustainable relationships with students, their families and educators
- Have a clearly defined vision for each of our **strategic partnerships** (employees, retirees, dealers, suppliers, STEM organizations, educational institutions, government, unions, employee resource groups and other companies)
- Ensure that **sustained STEM programs** in all key North American locations are appropriately funded, consistently delivered, supported by executive commitment and skill team engagement, and aligned with forecasted talent needs
- Aim to **lead the way** by making Ford a global STEM thought leader and an employer of choice, and developing our STEM brand globally

To help us attract new talent from academic institutions, we also run Powered by Ford STEM Academies. To prepare high school students for life in the real world, attendees learn core academic subjects and get involved in projects based on industry trends in engineering, information technology and manufacturing; these are often conducted in our facilities. In 2015, 80 students from Ford-supported STEM programs received scholarships.

> [STEM at Ford](#)

FIRST Robotics

Ford gives grants for elementary, middle and high-school teams in the **FIRST® Robotics** program. Under strict rules, and with limited resources and tight timelines, groups of students are challenged to raise funds, design a team "brand," work together to build and program robots to perform certain tasks, and then compete against other teams.

For the 2015 to 2016 season, Ford's FIRST Board selected 104 elementary and middle school teams to participate across the different leagues and challenges, compared to the 45 teams involved the previous year. The number of high school teams entering the FIRST Robotics Competition (FRC) also increased from 12 in 2013, to 50 in 2014 and 74 in 2015, while 45 employees volunteered to mentor Ford teams. Forty-five high school seniors from Ford-sponsored FRC teams earned the Ford STEM college scholarship.

> [Ford support for FIRST Robotics](#)

Learning and Development



Our mission is to create a learning organization where employees have a passion for learning, and leaders have the capability to continuously improve and transform the organization. To achieve that, we must continuously invest in the development of professional, technical, and leadership skills of our employees.

A Learning Culture

At Ford, employees can continually learn and apply new skills, which is the foundation to achieving the company's vision of making people's lives better. We believe everyone can help each other learn, and offering learning experiences is one way we can make our employees lives better. Our learning approach is a combination of virtual web-based and classroom training. It includes simulations, special projects, mentoring and coaching, social networking, workshops and team lunch-and-learn events. Together, these methods are designed to foster functional and technical excellence, encourage teamwork, promote One Ford values and enhance our ability to deliver results.

Leadership Offerings

We create a learning culture through various learning offerings, including the following programs for current and aspiring leaders:

The Global Leadership Summit (GLS)

Aimed at executives and general managers responsible for global projects, departments and budgets. These programs are a combination of immersion in markets and the application of new skills.

Global Executive Leadership (GEL)

A program that is geared toward directors and senior managers associated with a region, but with responsibilities that extend to the global enterprise.

Experienced Leader Program (ELP)

Aimed at middle management, the program helps grow the capabilities of our skill team leaders running regional large projects and functional departments.

Salaried Supervisor Institute (SSI)

The program for new and experienced front-line leaders was recently revamped to build foundational leadership skills and hands-on applications.

Coaching and Mentoring Support

This is offered both within and outside our leadership development programs. From our executive level to front-line global manufacturing operations, we offer personal coaches, process coaches and team leader development. This equips front-line production with the competencies needed to foster teamwork and achieve goals and objectives.

Learning Systems

Beyond our learning offerings, we upgraded our global learning management system last year, providing improved social tools to allow employees to collaborate on learning.

Leadership Skills in Manufacturing

Our Global Operations Leadership Development (GOLD) program was developed to ensure the core corporate leadership skills training can be adapted to and applied in a manufacturing environment. GOLD – a one-week immersion session for colleagues at team manager level and above – has been delivered in manufacturing plants across our regions during 2015, and we plan to reach all plants during 2016.

Competency Frameworks and Individual Development Plans

Ford offers competency frameworks and development plans for our salaried employees globally. In 2015, for the first time, more than 60,000 salaried employees completed their Competency Assessment (CA) and Individual Development Plan (IDP) using one common online tool.

Our global competency frameworks are designed to help salaried employees determine where they are in their careers, and to work toward future positions while maximizing performance in their current assignments. We offer learning solutions supporting competency development that are accessible online, on demand and in multiple languages at the MyLearning@Ford portal. To help ensure that IDP discussions between the manager and employee are of high quality, we launched a Development Discussions for Supervisors course globally in 2015. This aids our supervisors in effectively guiding and supporting the development of their employees.

Building a Globally Mobile Workforce

With operations on six continents, Ford needs a global workforce that is locally aware, globally mobile, adaptable and innovative. We need great leaders, able to operate in any part of the world.

To that end, we have made a substantial commitment to providing accelerated personal development plans and programs including Compass and Think Agile to help them succeed in a range of geographical and social contexts.

Our cultural awareness and other training programs focus on effective communication, successful cultural transition and a well-adapted management style. We believe our efforts have resulted in more satisfied employees and a stronger business, with growing market share around the world.

Case Study:

DEARBORN CAMPUS TRANSFORMATION

In April 2016, Ford Motor Company announced plans to transform its Dearborn facilities into a modern, green, high-tech campus to foster innovation and help drive the company's transition to an auto and a mobility company.

The 10-year transformation of our Dearborn facilities, already 60 years old, will co-locate 30,000 employees from 70 buildings into two primary locations: a product campus and a world headquarters campus. More than 7.5 million square feet of work space will be rebuilt and upgraded into even more technology-enabled and connected facilities.

Construction of the new product campus will begin at the Ford Research and Engineering Center. The majority of work is expected to be complete by 2023, while major work on the second campus around Ford world headquarters is scheduled for 2021–26.

When complete, Ford's Dearborn campuses will complement the company's state-of-the-art facility that opened in Palo Alto, California, last year. We plan to apply best practices and space standards from the Dearborn project as we upgrade our other global office environments, including the new Global Business Service (GBS) campus that we will start constructing in 2016 in Chennai, India.

through education and training, and the provision of capital loans to minority dealers. We continue to work with our Ford Minority Dealers Association (Ford MDA) and the National Association of Minority Automobile Dealers to sustain and strengthen their viability, while working to gain new partners at all levels of the dealership body.

› [Dealers in Our Communities](#)

Engaging With Dealers

Dealer relations are a key priority for us, and the Ford and Lincoln Dealer Councils play a vital role in creating forums for open dialogue. Through this process, dealers can share their concerns, needs and ideas for working more productively; these are published annually, along with Ford management input, providing added transparency.

Dealer Council members also participate in Ford's National Dealer Advisory Panels, addressing a range of issues including customer experience and satisfaction, new product development plans, dealer training, marketing and advertising.

As well as through day-to-day interaction, dealer satisfaction is measured through the biannual survey of the National Automobile Dealers Association (NADA).

Working With Ford – Dealers

Our dealers are a critical part of our success. They represent the face of Ford to our customers, and provide employment, tax support, leadership and customer service in our communities.

Our Dealer Network

To improve the retail customer experience and create loyal advocates of our products and services, we continue to collaborate with our U.S. Ford dealers to improve dealership facilities through the Ford Trustmark Facility Assistance Program, and work with our Lincoln dealers to upgrade dealership facilities and services for the luxury car customer.

Diversity and inclusiveness are intrinsic parts of Ford's DNA, and encouraging a strong minority presence in our dealerships remain a key focus. At the end of 2015, 294 (9 percent) of our U.S. Ford and Lincoln dealerships were female-owned, and 159 (4.9 percent) were minority-owned.

We have taken steps to better understand the diversity of our markets and have dedicated numerous resources to aid dealers in connecting with their communities and increasing sales. We strengthened our efforts to develop both our current and our prospective dealers

Data

Workforce Profile

A. Global Workforce by Region

	2013 ²	2014 ¹	2015
	Percent		
North America	46	48	48
South America	10	8	8
Europe	27	25	27
Asia Pacific Africa	13	NA	NA
Financial Services	3	4	3
Asia Pacific	NA	13	12
Middle East & Africa	NA	2	2

Reported to regulatory authorities

Data notes and analysis:

NA = Not available.

1. In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. Data for the Asia Pacific and Middle East & Africa business units (previously one Asia Pacific Africa business unit) have not been restated prior to 2014.
2. 2013 numbers do not add up to 100 due to rounding.

Also see:

› [Working at Ford](#)

B. Employment by Business Unit

	2013	2014	2015 ⁵
	Percent		
Automotive	175,000	181,000	192,000
Financial Services	6,000	6,000	7,000
Total	181,000	187,000	199,000

Reported to regulatory authorities

Data notes and analysis:

1. 2015 includes employees of Ford Sollers, our joint venture in Russia that was consolidated effective March 31, 2015.

All figures as of year-end. Historical employment figures from some years have been rounded and/or restated to align with financial reporting documents.

Also see:

› [Working at Ford](#)

Health and Safety

A. Global Lost-Time Case Rate (per 100 Employees)

Cases with one or more days away from work per 200,000 hours



Key:

■ Ford Motor Company (global)

■ U.S. Bureau of Labor Statistics average for NAICS Code 3361 (motor vehicles manufacturing)

Data notes and analysis:

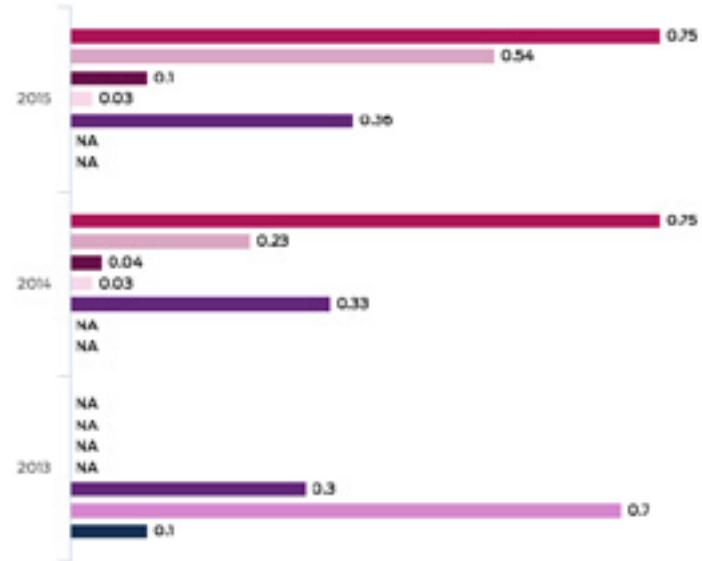
1. Includes South America Record keeping adjustments.

Also see:

› [Reinforcing Our Safety Culture](#)

B. Lost-Time Case Rate by Region (per 100 Employees)

Cases with one or more days away from work per 200,000 hours



Key:

■ North America

■ South America

■ Middle East & Africa

■ Asia Pacific

■ Europe

■ Americas

■ Asia Pacific Africa

Reported to regulatory authorities

Data notes and analysis:

NA = Not available.

For 2013, lost-time case rate by region data is reported for three regions: Americas (which includes our operations in North and South America), Europe and Asia Pacific Africa (which includes our operations in Asia Pacific and Africa). In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. For 2014 and future years, we will report lost-time case rate by region according to our new regional structure.

Also see:

› [Reinforcing Our Safety Culture](#)

C. Workplace Health and Safety Violations

	Number of violations		
	2013	2014	2015
North America	NA	4	1
South America	NA	1	1
Middle East & Africa	NA	0	0
Asia Pacific	NA	0	3
Europe	0	0	0
Americas	2	NA	NA
Asia Pacific Africa	5	NA	NA
Total	7	5	5

Data notes and analysis:

NA = Not available.

For 2013, workplace health and safety violations data is reported for three regions: Americas (which includes our operations in North and South America), Europe and Asia Pacific Africa (which includes our operations in Asia Pacific and Africa). In 2014, we reorganized our operations into five regional business units: Asia Pacific, Europe, North America, South America, and Middle East & Africa. For 2014 and future years, we will report workplace health and safety violations according to our new regional structure.

Also see:

- › [Reinforcing Our Safety Culture](#)

D. Global Fatalities**Data notes and analysis:**

Global fatalities data includes Ford employees and contractors. In 2015, we marked the fifth consecutive year of zero fatalities among Ford employees. However, there were four fatalities among contractors – in Asia Pacific, Europe and North America – who were involved in construction projects at our facilities.

Also see:

- › [Reinforcing Our Safety Culture](#)

Diversity**A. Global Salaried Employees by Gender**

	Percent		
	2013	2014	2015
Male	74.3	74	74
Female	25.7	26	26

Also see:

- › [Diversity and Inclusion](#)

B. Women in Middle Management and Above Positions by Region

	Percent		
	2013	2014	2015
Americas	19.1	19.9	NA
North America ¹	NA	NA	22
South America ¹	NA	NA	13
Asia Pacific Africa	16.7	17.5	NA
Asia Pacific ¹	NA	NA	14
Middle East & Africa ¹	NA	NA	17
Financial Services ²	21.5	20.5	23
Europe	10.8	11.6	13
Global Auto and Financial Services ³	17.0	17.7	18

Data notes and analysis:

NA = Not available.

1. Breakdown has been changed to keep consistent with other data reported.

2. Previously reported as Ford Credit.

3. Previously reported as Global.

Also see:

- › [Diversity and Inclusion](#)

C. Corporate Officers by Gender and Minorities

	Percent		
	2013	2014	2015
Male	90.5	85.7	86
Female	9.5	14.3	14
Minorities	19.0	19.0	18

Also see:

- › [Diversity and Inclusion](#)

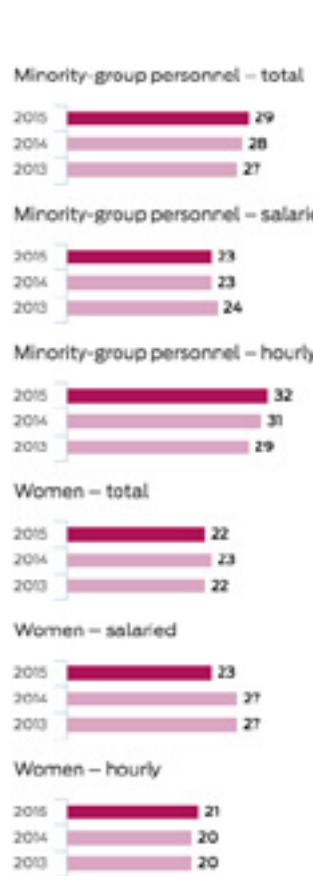
D. Board of Directors Composition by Gender and Minorities

	Percent		
	2013	2014	2015
Male	88.2	87.5	87
Female	11.8	12.5	13
Minorities	11.8	12.5	13

Also see:

- › [Diversity and Inclusion](#)

E. U.S. Employment of Minority-Group Personnel and Women at Year-End



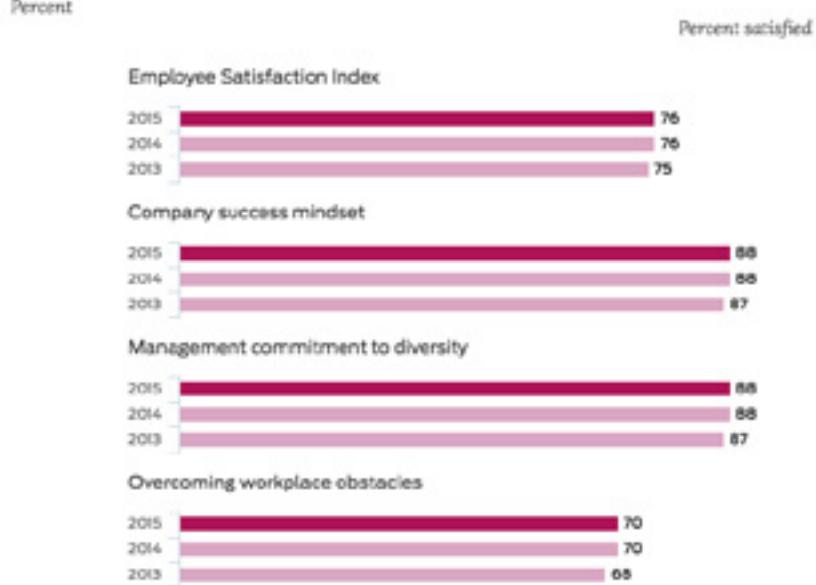
Reported to regulatory authorities

Also see:

› [Diversity and Inclusion](#)

Employee Engagement

A. Employee Satisfaction, Pulse Survey



Data notes and analysis:

Each year, we ask our workforce to participate in the Global Pulse and Engagement Surveys to gain insight into employees' overall satisfaction with the company, their jobs and other aspects of their workplace experience.

Also see:

› [Employee Engagement and Satisfaction](#)

B. Voluntary Quit Rate by Major Markets (Salaried Employees)

	2013	2014	2015
United States	1.4	1.5	1.9
Canada	1.2	2.5	2.2
Mexico	2.7	1.1	5.2
Brazil	2.4	2.7	2.3
Germany	0.5	0.4	0.4
United Kingdom	1.1	1.1	1.2
China	4.2	3.8	4.2
India	4.7	5.8	5.4
Thailand	9.5	6.7	6.5

Also see:

› [Attracting and Retaining Talent](#)

Dealers

A. Overall Dealer Attitude

	Relative ranking on a scale of 1–100 percent		
	2013	2014	2015
Ford (winter/summer score)	84/85	85/85	85/85
Lincoln (winter/summer score)	76/78	77/77	77/78
Industry (winter/summer score)	81/81	80/80	80/80

Data notes and analysis:

Overall dealer attitude is measured by the National Automobile Dealer Association (NADA) Dealer Attitude Survey conducted biannually.

Also see:

› [Working with Ford – Dealers](#)

GOVERNANCE

Ensuring that our business operates in a transparent and accountable way.

IN THIS SECTION

- [Sustainability Governance](#)
- [Public Policy](#)

Sustainability Governance

High standards of governance are key to maintaining the trust of investors and all our stakeholders. Importantly, all sustainability-related structures, processes and management systems are integrated into the way we do business.

Board Committees

At board level, the Sustainability and Innovation Committee has primary responsibility for reviewing strategic sustainability issues, though some are also addressed in other committees and by the board as a whole. The Committee evaluates and advises on innovations that improve our environmental and social sustainability, enrich our customers' experiences, and increase shareholder value, as well as the strategies to commercialize these technologies. We also have board committees that cover Audit, Compensation, Nominating and Governance, and Finance.

› [Read more about our board committees in our 2016 Proxy Statement](#)

Functional Areas

Our Sustainability and Vehicle Environmental Matters organization coordinates our companywide sustainability strategy and activities, and leads our sustainability reporting and stakeholder engagement. It also collaborates with other functional areas, as all our skill teams have a leading role to play in integrating sustainability throughout the company.

Executive Management

The Vice President of Sustainability, Environment and Safety Engineering has primary responsibility for sustainability issues, overseeing the Sustainability & Vehicle Environmental Matters group, the Environmental Quality Office, the Vehicle Homologation & Compliance group and the Automotive Safety Office. A number of other executive and group vice presidents across our functional areas also have responsibility for sustainability-related issues.

We also have a number of governance structures for managing specific issues that cut across our functional areas. These include a multi-disciplinary senior-level team, led by the Vice President of Sustainability, Environment and Safety Engineering, to oversee our actions in response to our climate change and sustainable mobility strategies.

OUR SUSTAINABILITY STRATEGY

Consistent with our aim to deliver great products, a strong business and a better world, our sustainability strategy directs our efforts and resources to help address climate change and other global challenges.

› [Read more about our sustainability strategy](#)

Ethics and Compliance

As our company grows, we need to ensure that ethics and compliance remain the foundation of all our business practices around the world. Building on our brand promise, we developed an internal communication campaign to "Go Further – The Right Way."

Corporate Compliance Office

Our Corporate Compliance Office promotes a culture of compliance and ethics across our business. Part of Ford's Office of the General Counsel, it works with many other areas of the company to translate our aspirations and our high standards – formalized in company policies and reinforced by management – into action. Our compliance program is overseen by a committee of senior management and the Audit Committee of the Board of Directors.

Ethics Advice at Our Fingertips

To go beyond talk, we are developing a "less-effort compliance" approach. This is designed to make it as easy as possible for our employees to do the right thing, by providing the information our people need, when and where they need it. To help us deliver on this promise, our Corporate Compliance Office is working on innovative training and communication tools that make it even easier to comply with corporate policy and the law.



One of these tools is a free mobile application, The Right Way, which puts key compliance information at the fingertips of our employees. Released in 2015, The Right Way enables our people to contact the Corporate Compliance Office directly. It also provides answers to frequently asked questions, covering topics such as our human rights commitment, the signs of human trafficking, our stance against harassment and discrimination, and our strict policy against bribery and corruption.

To make this new tool as accessible and easy to use as possible for our global workforce, it is now available in seven languages. It is also being made publicly available so that our suppliers and other business partners can use it to become more familiar with our ethical policies and commitments.

We are also making the entire app – including the architecture and content – available as "open source" material for other companies and groups to build upon.

Ethics and Compliance Training

Our Policy Letters and Directives formally establish expectations for our employees and others working on our behalf, and the most important and relevant of these are incorporated into our Code of Conduct Handbook (pdf, 1.01MB). Available in 14 languages, this is our chief ethical guidance document.

To reinforce the information these documents contain, we run mandatory online training courses for our global nonmanufacturing employees and other key personnel. The courses focus on risk areas such as bribery and corruption, conflicts of interest, and protecting personal and company information.

We are also focusing on making sure the materials we provide are the most useful and engaging, and available when needed. For example, we are incorporating a short animation about our anti-bribery philosophy into an upcoming training course, to help our people appreciate why companies need to take a stand against corruption. We want them to understand that, not only is bribery against the law and contrary to our policy, it also hurts people in the communities in which we live and do business.



Reporting Violations

Our compliance program encourages and facilitates the reporting of known or potential violations of the law, or of our Policy Letters and Directives. There are many ways for individuals to report such violations: through our General Auditors' Office, Human Resources team or the Office of the General Counsel, using telephone hotlines or via email. A cross-functional committee reviews all allegations, oversees any investigations and implements corrective or disciplinary actions.

Anti-Bribery and Anti-Corruption

Although our 62 plants around the world need to comply with a wide range of national laws and levels of enforcement, it's essential that we maintain the highest standards wherever we operate. To ensure we don't accept local norms if they fall below our own standards, we have:

- Crafted clear bribery and corruption policies, and put procedures for reporting breaches of those policies in place
- Strengthened the anti-bribery/anti-corruption elements of our Global Terms and Conditions for our suppliers
- Continued to train individuals who may encounter bribery or corruption issues in their work
- Assessed all our operations for risks related to bribery and corruption

Case Study:

FORD NAMED ONE OF WORLD'S MOST ETHICAL COMPANIES



As ethics in business increasingly affects customers and their purchase decisions, we were proud to be named to the 2016 World's Most Ethical Companies® list by Ethisphere Institute in March 2016.

This marks the seventh consecutive year that we have received the accolade. Ethisphere

Institute rates companies across five categories: ethics and compliance, corporate citizenship and responsibilities, culture of ethics, governance and leadership, and reputation.

"This honor celebrates our employees who are committed to doing the right things and making the right choices. Ethics and corporate citizenship are the foundation of what drives us to make people's lives better."

Bill Ford
Executive Chairman, Ford

Key Business Processes

We have a number of key governance structures that enable us to manage issues that cut across functional areas. These include the Creating Value Roadmap, the model for how we run the company.

Creating Value Roadmap

The CVR process is institutionalized as Policy Letter 25. This helps to ensure we implement sustainability-related risk assessments, planning, strategy implementation and performance reviews consistently around the world.

The Creating Value Roadmap (CVR) is the model for how we run the company. It contains the management processes we follow to continually improve our performance and deliver on our One Ford plan.

Fully integrated into how we run the business, it enables us to continually monitor the ever-changing global business environment for risks and opportunities – including those related to sustainability – and use this analysis to inform and adjust our strategies and plans as needed. It also helps to create stronger accountability for setting, tracking and reporting progress against our goals, objectives and targets for revenues, other financial indicators and stakeholder satisfaction.

We monitor progress against objectives throughout the year, using the Business Plan Review and Special Attention Review processes set out below. These allow us to respond to new internal and external developments in a timely manner and, based on these evaluations, adjust our management approaches where necessary.

- **Business Plan Review (BPR) Process:** We hold weekly BPR meetings to review our management of sustainability and other business issues with each member of the senior leadership team (representing all skill teams and business units). Ford's sustainability scorecard is reviewed alongside our business units' scorecards at these meetings.
- **Special Attention Review (SAR) Process:** The SAR process brings the senior leadership team together to review significant matters in more detail, and to develop action plans and strategies to address risks and opportunities.

- **Additional governance forums:** Other forums, including the Automotive Strategy Meeting, Product Matters Meeting, Quality and Productivity Meeting, and Executive Personnel Committee, enable us to review key elements of our business, make long-term decisions and develop strategic inputs to the Board of Directors.

Business Plan Development and Compensation

As part of our annual business planning process, Ford's business units develop scorecards to track their performance. Sustainability targets are integral to companywide achievements and are translated into product manufacturing and financial performance metrics. These metrics form part of the performance assessment of managers at various levels of the company and affect their compensation. Executive compensation is affected by the company's performance in a range of areas, including sustainability.

Corporate Governance

Ford's Board of Directors is guided by our Corporate Governance Principles, Code of Ethics and charters for each board committee, all of which are publicly available in the corporate governance section of our corporate website. You can also read more about corporate governance in our [Annual 10-K report](#).

Policy Letters and Directives

Ford maintains a comprehensive set of Policy Letters and Directives and other corporate standards that govern all company activities, many of which relate to sustainability.

Sustainability Management Systems

We also use a variety of systems and processes to manage the different aspects of sustainability across our business. These are summarized in the various chapters of this report, including Sustainability at Ford, which also outlines our sustainability strategy.

Policy Letters and Directives

At Ford, Policy Letters establish a framework of broad, basic principles within which the company conducts its business globally, while Corporate Directives provide more in-depth information on narrower topics or only relate to particular segments of the business. Many other business practices, handbooks, guidelines and business standards are used to govern the conduct of our people around the world. The following Ford standards have a particular relevance to sustainability.

Bribery and Corruption

It is our policy to never pay bribes nor allow others to pay bribes on our behalf, and to comply fully with the laws of each country in which we do business. Our personnel are directed to report any requests or solicitations for improper payments through our companywide reporting systems. We also have ethical standards to limit the types of entertainment, gifts and favors our workers can accept.

Diversity

We are committed to equal opportunity in all aspects of our business. We also recognize that a diverse workforce is a valuable asset, and we strive to provide an inclusive work environment in which different ideas, perspectives and beliefs are respected. Our Policy Letter and Directives relating to diversity and inclusion address equal opportunity and require that there be no disparate treatment because of race, religion, color, age, sex, national origin, disability, gender identity, sexual orientation or veteran status, and other factors that may be covered by local law.

Health, Safety and the Environment

The protection of health, safety and the environment is a companywide responsibility of everyone, at all levels of Ford. Our policies highlight the importance of sustainable economic development to our future and that of society in general. Our products, services, processes and facilities are periodically reviewed against objectives and targets that are designed to minimize the creation of waste and pollution from our operations, and any adverse impact on worker health and safety.

Human Rights

Ford's commitment to human rights is embodied in Policy Letter 24, our Code of Human Rights, Basic Working Conditions and Corporate Responsibility. This code forms the foundation for work within our own operations and supply chain and is based on internationally recognized labor standards, including the Universal Declaration of Human Rights; International Labour Organization Covenants; the Organisation for Economic Co-operation and Development's Guidelines for Multinational Enterprises; and the United Nations' Global Compact Principles.

Policy Letter 24 outlines our commitments on key human and labor rights issues such as working hours, child labor and forced labor, human trafficking, health and safety, harassment and discrimination, and freedom of association. It also:

- Articulates our commitment to be a good corporate citizen and how we work to implement policies and programs to benefit the communities in which we operate
- Encourages suppliers to adopt and enforce similar policies for their own suppliers and subcontractors

Political Contributions

Ford's Policy Letter on governmental relationships covers issues relating to public policy and political contributions. This is discussed in more detail under Public Policy.

Privacy

The trust and confidence of our customers are essential to building long-term relationships and delivering excellent products and services. We recognize that customers, employees and others have concerns about data privacy and security, and expect us to protect and handle personal information responsibly. We are committed to implementing responsible privacy and data-handling practices, and our relevant Policy Letters and Directives are designed to ensure the continuing trust and confidence of those who entrust us with personal information.

Product Quality and Customer Safety

Our Quality Policy Letter forms the foundation of a process that stresses the importance of quality in everything we do, noting that the customer defines quality. It establishes a Quality Operating System (QOS) and the use of key metrics to make decisions that will improve the quality of our products.

Vehicle safety is a fundamental aspect of Ford's QOS. Our Safety Policy Letter outlines our commitment to design and build vehicles that meet or exceed applicable laws and regulations, while meeting the safety needs and expectations of our customers. In line with our Policy Letter, Ford is continuously working to enhance the safety of our products.

Social Media Interactions

We encourage responsible employee participation in social media – such as Facebook, Twitter and Instagram, as well as blogs and online discussion forums – and have developed digital participation guidelines. We also use online training to educate our workforce about the use of social media and the need to communicate honestly and respectfully in connection with our business.

Public Policy

Every day, government officials around the world make decisions that impact our business. As a global company, it is important that we have a voice in policies that affect our business in the countries in which we operate, and that we continue to be recognized as a credible source of information during the formation of those policies.

Supporting the Policy-making Process

Ford seeks to be an active participant in the political process in a manner that is transparent and supports our business interests. Across a range of issues, we strive to be part of the solution, supporting international, national, regional and local policies that are economically, environmentally and socially sustainable for our company, our customers and their communities.

On issues of the highest priority, we maintain regular dialogue with legislators and regulatory officials in our major markets, sharing our expertise and adding our perspective to the policy-making process. Our Government Affairs offices around the world oversee these lobbying activities.

Membership in Coalitions and Associations

We belong to a broad range of partnerships, coalitions, industry groups and trade associations that advocate for legislation and regulation on behalf of their members. Working with others through such organizations enables us to better leverage our resources on important issues, and to develop and promote policies that could have far-reaching benefits for our company, but also our industry and society as a whole.

Of course, we don't always agree with every position taken by these organizations; in such cases, we always reserve the right to speak with our own voice and make our own stance clear, even if our views don't align with the positions of the associations to which we belong.