



# A DRIVING FORCE

2014 SUSTAINABILITY REPORT



The Automotive Industry will change more in the next five years than in the previous 50 years.

The nature of **customer interaction** evolves.

The importance of **environmental efficiency** increases.

**Technology** reshapes the industry and global growth shifts to **new markets**.

As this unfolds, GM is providing innovative solutions to deliver the benefits of personal mobility for our customers.

Here's how GM is...

## A DRIVING FORCE TO TRANSFORM TRANSPORTATION



Our Purpose conveys who we are and why we are here. It serves as a guide to unite our more than 216,000 employees around the world with a collective set of goals that we work toward everyday.

## WHO WE ARE AND WHY WE ARE HERE

### WE EARN CUSTOMERS FOR LIFE

I love problem solving and collaborate with people to deliver efficient solutions to solve ride, handling, noise, vibration, comfort, storage, heating, cooling, safety, energy efficiency – all aspects of a vehicle. Together we make sure the parts and systems are integrated so the vehicle performs in the manner our customers anticipate. As vehicles rely less and less on traditional fuel systems – or, in certain cases, not at all – we face new challenges.

*Trista Schieffer, Lead Development Engineer for Battery Electric Vehicles*

### WE BUILD BRANDS THAT INSPIRE PASSION AND LOYALTY

Our team has been fixated on what we could do to make the next-generation Volt even better for our customers who are some of the most satisfied in the industry. We went to Volt owner events across the country and heard first-hand what owners loved and wanted to see in the new car: more EV range, better fuel economy in extended range mode and a vehicle that is even more fun to drive. The next-gen Volt will do all of this and much more.

*Pam Fletcher, Executive Chief Engineer Electrified Vehicles*

### WE TRANSLATE BREAKTHROUGH TECHNOLOGIES INTO VEHICLES PEOPLE LOVE

Even more encouraging is the fact nearly half of our early 4G LTE customers are opting for monthly plans of 1 gigabyte or more. Customers understand this technology and its advantages, and are excited to connect tablets and other devices. When surveyed, customers are saying their top Wi-Fi use is browsing the Internet, followed by checking email, streaming music and using apps. As expected, this technology is allowing customers to take their digital lives with them on the road.

*Terry Inch, Executive Director of OnStar Sales, Delivery and Support, GM Global Connected Customer Experience*

### WE SERVE AND IMPROVE THE COMMUNITIES IN WHICH WE LIVE AND WORK

There's no end to what our Chevy Cheyenne Brigade can transport. We've transported toilets, vessels to collect rainwater and vaccines for poultry. Basically we take raw materials, equipment and people to the most disadvantaged places and help establish a level of sustainable development in the communities. It's wonderful to see. Plus, the name Cheyenne Brigade can't be beat.

*Claudia Algorri, Public and Government Relations Director, GM Mexico*

### WE ARE BUILDING THE MOST VALUED AUTOMOTIVE COMPANY

Joinville is the first automotive plant in South America to become LEED Gold certified. The environmental performance of this plant has been on our minds since Day One of construction. This operation embodies GM's outlook on integrating sustainability into every decision we make – from building efficient facilities to designing efficient vehicles.

*Santiago Chamorro, President & Managing Director, GM do Brasil*

## OUR CORE VALUES

Our Values support our Purpose and are the foundation for everything we do at GM – how we behave, how we communicate and how we hold each other accountable.



### CUSTOMERS

We put the customer at the center of everything we do. We listen intently to our customers' needs. Each interaction matters. Safety and quality are foundational commitments, never compromised.



### RELATIONSHIPS

Our success depends on our relationships inside and outside the company. We encourage diverse thinking and collaboration from the world to create great customer experiences.



### EXCELLENCE

We act with integrity. We are driven by ingenuity and innovation. We have the courage to do and say what's difficult. Each of us takes accountability for results and has the tenacity to win.

## TRANSFORMING TRANSPORTATION: OUR PRIORITIES

The future of the automotive industry will be shaped by megatrends in which the nature of customer interaction changes, the importance of environmental efficiency increases, technology reshapes the industry and global growth shifts to new markets. Against this backdrop, GM is focused on a set of long-term strategic priorities in order to be a driving force to transform transportation.



EARN  
CUSTOMERS  
FOR LIFE



GROW OUR  
BRANDS



LEAD IN  
TECHNOLOGY  
& INNOVATION



DRIVE CORE  
EFFICIENCIES



CULTURE  
TO WIN



## 2014 SUSTAINABILITY REPORT

The GM logo, consisting of the letters "GM" in white on a blue square background.

### LEADERSHIP

#### IN THIS SECTION:

CEO Message	6
2014 Highlights	9
2014 Scorecard	10
Regional Updates	12



## In 2014, GM took important steps on its journey to become the most valued automotive company.

We made significant strides in the face of an extraordinary set of challenges that we took head on, and we are a stronger company today because of what we learned and the progress we have made. Our core operating results in 2014 reflect what's possible as we work to deliver more sustainable value for our company as well as our customers and communities.

At GM, strengthening our company while building stronger communities and a better world through improved mobility defines our approach to sustainability. Personal mobility means freedom. It means economic advancement. It means connected families and communities. It also means a world of safer and smarter vehicles – cars, trucks and crossovers that use less fuel; that have less environmental impact; and that are programmed to help drivers avoid accidents and reduce congestion.

By far, people are the most important drivers of these efforts, and every other initiative at our company. Building a winning culture is a priority and a key takeaway from the issues of 2014, which underscored our need to change behaviors within GM. This winning culture demands candor, accountability and an unwavering focus on customers.

All of us are committed to serving and improving the communities in which we live and work. I am proud of the hundreds of activities and thousands of hours that GM employees volunteer each year that result in better schools and safer, smarter and healthier communities.

To fully realize the benefits of mobility, we need to ensure we have a robust pipeline of talent to add to our global workforce. Getting students excited about science, technology, engineering and math (STEM) is an important area of focus. STEM programs not only create opportunities for students, these same programs can also help us attract the next generation of GM engineers, designers and IT specialists to develop and deliver industry-leading products and services for our customers.

Today, GM supports STEM education in nearly all of our markets. We are among the founding sponsors of global programs such as the Partners for the Advancement of Collaborative Engineering Education (PACE) and the FIRST® Robotics Competition, which facilitate collaborative learning, innovative projects and competitions for students worldwide.

Together with SAE International, we also co-founded the program, A World in Motion (AWIM), designed to help bring STEM education to life through interactive learning experiences for elementary,



middle school and high school students. Today, hundreds of GM employees and retirees volunteer in nearly 400 classrooms across the U.S. as part of the AWIM program. I am excited by these and other educational efforts led by our employees all around the world, and we intend to build upon this foundation in the years ahead.

### CUSTOMER FOCUSED

At GM, who we are starts with the goal of earning customers for life. This means making their safety our top responsibility and ensuring that every interaction surpasses their expectations. The ignition switch recalls we experienced were galvanizing, and our response has been far-reaching. We took action to make GM a much more customer-focused company and built what I believe is one of the best safety organizations in the industry. We added more investigators. We reorganized our vehicle engineering department to improve systems integration. We've improved our data collection and analysis, and much more. Most importantly, we're instilling a "zero defects" mindset across the company.

We will be relentless in our pursuit of zero defects and we're starting from a solid base. According to J.D. Power and Associates, the reliability of GM vehicles in the United States has improved for seven straight years. Buick has been on J.D. Power's top 10 brand list for long-term reliability every year for the past decade, while Cadillac currently ranks fourth, with Chevrolet and GMC ranking 10th (in a tie).

In addition, Chevrolet, GMC and Buick took three of the top four spots in customer satisfaction in the J.D. Power Dealer Service Index, and they recognized Cadillac as a 2014 Customer Champion for the third time.

Quality is a key driver of customer satisfaction, and we're seeing that reflected in the growth of our brands. Last year, three regional brands — Buick, Wuling and Baojun — saw record sales, and GM as a whole recorded its second consecutive year of record vehicle sales globally.

Industry experts view our current vehicle lineup as the best our company has ever offered. It's also our most environmentally efficient portfolio across multiple segments:

- About 40 percent of the vehicles we sell today achieve fuel efficiency of at least 30 mpg highway and for the 2015 model year, six cars have fuel efficiency of 40 mpg or better.
- The Chevy Colorado, *Motor Trend* magazine's unanimous choice for 2015 Truck of the Year, has reinvented the midsize truck with segment-leading fuel efficiency – a U.S. Environmental Protection Agency (EPA) estimated 20 mpg city and 27 mpg highway on a two-wheel drive model with a 2.5L engine and an automatic transmission – while also meeting customers' needs for performance.
- Our steadfast commitment to electrification and delivering innovative products for our customers is reflected in the second-generation Chevrolet Volt, which will be available in the fall of 2015. Also, given the strong public reaction to the Chevrolet Bolt EV concept, with an expected electric range of up to 200 miles based on our latest testing, we announced there will be a production version in the near future.

The all-new Chevrolet Volt is an important example of how we listen to our customers. The next-generation Volt has been developed using insights from existing Volt customers, who are among the most satisfied vehicle owners in the marketplace. These customers provided input on a host of things from design to performance, and we rely on this insight to help exceed their expectations for mobility.

## ADVANCED TECHNOLOGY

Along with our commitment to electrification, we intend to lead in two other advanced technology areas that create value for our customers today and will help define mobility solutions of the future – connectivity and intelligent driving systems.

In 2014, we made OnStar 4G LTE available in the United States and Canada on more than 30 2015 models. In 2015, OnStar 4G LTE will be introduced in Europe and China as the next phase of delivering connectivity for our customers around the world. Connectivity, however, is about so much more than making our vehicles "rolling hotspots" that connect customers to family, friends and work.

In the summer of 2015, we expect to launch a 4G LTE-enabled technology that can predict when certain vehicle components may need attention and notify drivers – in some cases before there's any impact on performance. Initially, the feature is planned to be available on a number of 2016 models in the U.S. and Canada, including the Chevrolet Equinox, Tahoe, Suburban, Corvette and Silverado.

One of the many exciting developments at Cadillac will be the launch of "Super Cruise," which will put the brand at the forefront of intelligent driving systems. Planned for introduction in the 2017 model year, Super Cruise is the working name for an innovative GM system that allows drivers in certain circumstances to operate the vehicle without touching the steering wheel or pedals.

Also in the 2017 model year, Cadillac plans to introduce vehicle-to-vehicle connectivity, a wireless technology that has the potential to mitigate or help avoid many crashes involving unimpaired drivers.

We're convinced that customers will embrace these advanced technologies for very simple reasons: they enhance safety, increase situational awareness, and provide solutions that increase efficiency and integrate seamlessly into everyday life.

## RESPONSIBLE STEWARDSHIP

Another key measure of excellence is efficiency – leveraging our global scale and manufacturing processes to ensure optimal use of resources, be it time, energy, money or natural resources. Our success has the potential to yield both financial and environmental returns.

In 2014, we increased the number of global facilities that have met the U.S. EPA ENERGY STAR® Challenge to an industry-leading total of 70 facilities located around the world. In total, these facilities have avoided \$162 million in energy costs since we

began tracking improvements for the Challenge in 2008. For these and other efforts, the EPA awarded GM for the third year in a row its ENERGY STAR® Partner of the Year – Sustained Excellence award, the organization's highest level of recognition for corporate energy management.

Responsible energy management also means diversifying our energy portfolio with renewable energy, which has not only lowered costs, but also mitigated risks such as exposure to volatile energy prices and electric grid interruptions that could disrupt our operations.

We are among only a handful of Fortune 100 companies with commitments for both increasing energy efficiency and renewable energy capacity. In 2014, we increased our renewable energy capacity by over 30 megawatts, and we will continue to explore new ways to expand our capabilities and promote renewable energy use among industrial energy buyers.

Consider also our progress in waste management. Today, we have 122 landfill-free sites in the world, more than any other automaker. At 89 landfill-free manufacturing sites, we reuse or recycle approximately 94 percent of waste from daily operations and convert the other 6 percent to energy. In recent years, we have also generated over \$1 billion in revenue from scrap sales and recycling activities around the world.

Our leadership in waste management has inspired us to set an even more ambitious goal to be the first automaker in the world with all of our sites sending zero waste to landfill. While there are many challenges, some beyond our own control, we can set this aspirational target that continues to promote leadership, commit to sharing these best practices with our suppliers and partners, and continue to pass this value on for our customers and the environment.

## GROWTH AND OPPORTUNITIES

For our company's financial performance, I am pleased to report we have now delivered 20 consecutive profitable quarters through the end of 2014. For the year, we earned net income to common stockholders of \$2.8 billion, including recall-related costs. EBIT-adjusted, which is the metric we use to track our operating performance, was \$6.5 billion, including \$2.8 billion in recall-related costs and \$1 billion in restructuring expenses. Our core operating margin was 6 percent.

Among the year's highlights:

- In China, our joint ventures delivered record sales, market share and earnings.
- In North America, through the end of 2014, we delivered six consecutive quarters, year over year, of improved core operating EBIT-adjusted margins. Market share held steady despite the impact of recalls.
- In Europe, Opel/Vauxhall enjoyed its second consecutive year of sales and share growth.
- In South America, we posted a small loss, but even as conditions became more challenging, the team finished the year with three consecutive, quarter-to-quarter, improved EBIT-adjusted results.

These and other achievements continue to deliver value for our shareholders, but it does not begin and end there. The greater, more enduring opportunity is to become the most valued automotive company for all of our stakeholders – shareholders, customers, employees, communities and society alike.

This opportunity has never been as timely. We believe that the automotive industry is going to change more in the next five years than it has in the past 50 years. Around the world, consumer expectations are changing. Demands for better fuel efficiency, different propulsion options, enhanced communication technology, safer vehicles, and improved customer service are driving GM and others to reimagine products and services for our customers.

I see this as a great opportunity for GM to lead and redefine the future of our industry. And this opportunity is the driving force behind our business strategy and priorities today.

## A BETTER TOMORROW

Our goal at GM is to be the clear leader in this era of transformational change. From advanced safety technology to fuel efficiency, operational excellence is an important part of everything we do at GM. Applying a sustainable mindset to operational excellence helps drive how we can deliver the best mobility options for our customers today and tomorrow.

I know I speak for every GM employee when I say we are excited about the future. More than excited, we are inspired.

Thank you for your support.



Mary T. Barra  
Chief Executive Officer  
April 2015

At GM, strengthening our company while serving our customers and building better communities through improved mobility defines our approach to sustainability and is part of our core. In 2014, this approach delivered progress across a broad spectrum of efforts.

**8**

Segment award recipients — more than any other automaker for the 2014 model year — in the J.D. Power 2014 Vehicle Dependability Study.

**122**

GM facilities worldwide have achieved landfill-free certification — the most of any automaker.

**71%**

Of invited suppliers participated in our CDP Supply Chain Initiative, a voluntary program to help increase engagement with suppliers about environmental performance and disclosure.

**2017**

The model year that Cadillac announced its Cadillac CTS will begin offering intelligent and connected vehicle technologies.

**1,000,000**

The number of footballs donated by Chevrolet, in partnership with the One World Play Project, to help demonstrate what is possible through the power of play.

**6 U.S. Models**

Achieve an EPA-estimated 40 mpg highway or better: the Chevy Cruze, Cruze Eco, Sonic, Sonic5, Volt and Spark BEV.

**1,000**

Average miles can be traveled between fueling with regular charging on the next-generation Volt unveiled in early 2015.

**+30 MW**

Increase in renewable energy during 2014 for a total of just over 100 MW, which includes more solar installations in the U.S. than any other automaker.

**170**

Global facilities took part in local education initiatives, most of which focused on STEM education such as the FIRST Robotics Competition for high school students.

**83%**

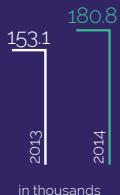
Of salaried employees in 64 countries completed our global Workplace of Choice survey — just one of the ways we are building a Culture to Win.

## PRODUCT COMMITMENTS

## U.S. ELECTRIFICATION\*



500,000 vehicles on the road in the U.S. with some form of electrification by 2017.

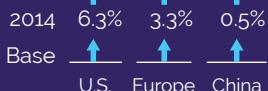


\*Includes all eAssist, two-mode hybrid, extended-range electric vehicle and electric vehicle models since model year 2010.

## MOBILE EMISSIONS



## Goal 15.0% 27.0% 28.0%



Reduce the average carbon emissions of U.S. fleet by 15 percent by 2016; Opel/Vauxhall fleet in Europe by 27 percent by 2021; and China fleet 28 percent by 2020.

## U.S. FUEL ECONOMY



GM will double the number of U.S. models that can achieve an EPA-estimated 40 mpg highway or better by 2017.



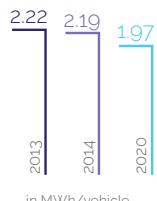
\*All 2014 models are from Chevrolet and include Sonic, Cruze, Cruze ECO, Sonic 5, Volt and Spark BEV.

## MANUFACTURING COMMITMENTS

## COMMITMENT 1:

**↓ 20%**

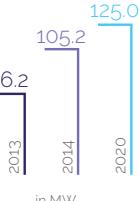
Reduce energy intensity from facilities by 20 percent.



## COMMITMENT 2:

**125 MW**

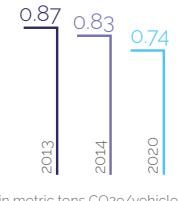
Promote global renewable energy use to utilize 125 MW of renewable energy by 2020.



## COMMITMENT 3:

**↓ 20%**

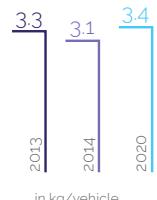
Reduce carbon intensity from facilities by 20 percent.



## COMMITMENT 4:

**↓ 10%**

Reduce VOC emissions from assembly painting operations by 10 percent.

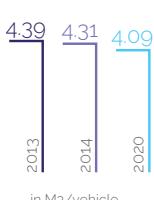


Commitment achieved in 2013.

## COMMITMENT 5:

**↓ 15%**

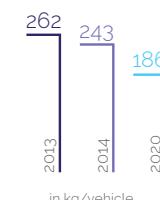
Protect water quality and reduce water intensity by 15 percent.



## COMMITMENT 6:

**↓ 40%**

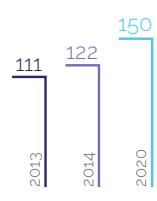
Reduce total waste from facilities worldwide by 40 percent.



## COMMITMENT 7:

**150**

Promote landfill-free sites to achieve 100 landfill-free manufacturing sites and 50 nonmanufacturing sites.



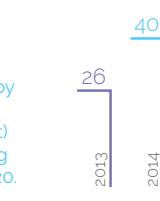
## COMMITMENT 8:

**100%**

Promote and engage community outreach on environmental and energy issues by completing one outreach activity at all plants on an annual basis.

## COMMITMENT 9:

Improve wildlife habitats by having a Wildlife Habitat Certification (or equivalent) at each GM manufacturing site where feasible by 2020.



## FOOTNOTES

### ENERGY INTENSITY

*Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO2 Scopes). These data include data from some GM JVs.*

### CARBON INTENSITY

*Includes all manufacturing and nonmanufacturing CO2e emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production. These data include data from some GM JVs.*

### GLOBAL WATER INTENSITY

*Includes all manufacturing and nonmanufacturing facility water consumption (municipal, surface, well), normalized by vehicle production. These data include data from some GM JVs.*

### LANDFILL-FREE SITES

The term "landfill-free" means that all byproducts (waste) that come from operations are managed by any other method except placement in a landfill. This includes periodic byproducts, such as pit cleanouts. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. The ash generated from GM waste materials at off-site energy recovery facilities is exempt. Individual plants, i.e., assembly, stamping, foundry, engine or transmission plants; parts distribution, proving grounds and technical centers, are treated as "facilities" or "sites." These data include data from some GM JVs.

### VOC EMISSIONS FROM ASSEMBLY PAINTING (MEASURED IN KG VOC/VEHICLE)

The previous 2010 baseline of 3.8 kg VOC/Vehicle has been updated to account for VOC destroyed by abatement, resulting in a decrease of 0.1 kg VOC/Vehicle for a new baseline of 3.7 kg VOC/Vehicle. VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, etc. These data include data from some GM JVs.

### WILDLIFE HABITATS

Co-located sites, such as an assembly plant, stamping plant and engine plant all located at the same complex, are treated as a single site.

### TOTAL WASTE

Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused waste, construction, demolition and remediation debris.

### RENEWABLE ENERGY

Renewable energy generation for solar power, landfill gas and hydro-generated electricity may be estimated based on technology capacity factors where actual data is not available. Capacity factors are obtained through the National Energy Laboratory, a division of the U.S. Department of Energy.



"For 2015, the focus of GM North America continues to be on earning customers for life, as we create industry-leading value, deliver an excellent retail experience and serve as responsible corporate citizens."

ALAN BATEY, EXECUTIVE VICE PRESIDENT AND  
PRESIDENT NORTH AMERICA

For 2015, the focus of GM North America continues to be on earning customers for life, as we create industry-leading value, deliver an excellent retail experience and serve as responsible corporate citizens. Here are a few examples of our progress this year:

- Together with our dealers, we continued to invest in our retail experience and our retail facilities, providing the most contemporary sales and service network in the industry. Our dealers have done an outstanding job, and it shows in the results. In the U.S., Buick, GMC and Chevrolet took three of the top four spots in J.D. Power's 2014 Sales Satisfaction Index. And Buick led the entire industry in the Customer Service Index, with GMC third and Chevrolet fifth.
- Our product lineup is the best it's ever been. Our goal is not just to compete but to win in every market segment. And third-party analysis is proving that we are beginning to get this job done.
  - In a leading customer publication, the Chevrolet Impala and the Buick Regal were named Top Picks in the Large Car and Sport Sedan segments, respectively. Also, Buick became the first domestic brand to earn a Top 10 spot in another leading publication, with a seventh place finish and 83 percent of its portfolio achieving "Recommended" status.
  - In the 2015 J.D. Power and Associates U.S. Vehicle Dependability Study, all four of our brands ranked among the top 10. Buick trailed only Lexus. Cadillac was fourth, and Chevrolet and GMC tied for 10th. We earned seven segment awards for specific models. No other automaker won more.
  - This year we will add nine new vehicles to our showrooms, each designed with the passionate voice of our customers in mind. The all-new 2016 Chevrolet Volt is a terrific example, as many innovations were a direct result of customer feedback:
    - Greater range: Up to an estimated 50 EV miles, 1,000 miles on average between fill-ups with regular charging
    - Faster acceleration: 0-60 mph in 8.4 seconds

- Better, more user-friendly charging
- Up to 12 percent more efficient
- Sportier, more aerodynamic design that contributes to efficient driving performance
- Seating for five
- At GMNA, sustainability is more than just a responsibility — it is also a strong business approach that drives value throughout our operations and to our stakeholders. Our sustainability strategy extends to how we manufacture our products and how we engage with our communities. We've had a number of environmental successes in North America, including:
  - *Landfill-free*: Five new North America landfill-free operations (out of 11 new operations globally in 2014), an industry-leading total of 122 altogether.
  - *Energy efficiency*: Six more "U.S. EPA ENERGY STAR® Challenge for Industry" sites (out of 18 in 2014), an industry-leading total of 70 altogether.
  - *Habitats*: 12 more programs in North America certified by the Wildlife Habitat Council out of 15 total programs in 2014, an industry-leading 40 programs altogether.
  - *Renewable energy*: We've continually added more renewable energy across our operations, including more than 15 acres of arrays, including two at our facilities in Flint, Michigan, and our largest solar energy installation in the Western Hemisphere in Lordstown, Ohio.
  - *Outreach*: For the 25th year, our employees waded into waterways with 9,000 students across the U.S. and Canada to help promote conservation. Employees from 42 GM sites (including all of our U.S. manufacturing plants), also mentor youth on conservation, spark interest in STEM (science, technology, engineering and mathematics) and encourage civic engagement. The program is a collaboration of partners, from the nonprofit Earth Force that facilitates the activities, to local schools and community conservation groups in 26 communities in which GM operates across North America.

– *Climate Change:* Chevrolet's efforts to help U.S. colleges reduce their carbon footprint earned a Climate Leadership Award for Innovative Partnerships from the U.S. Environmental Protection Agency Center for Corporate Climate Leadership.

We believe all of these initiatives, and many others like them, play a role in making the world a better place for future generations, as well as bringing us closer to our goal of earning customers for life. It's all part of our dedication to driving excellence in everything we do.

With all of these great initiatives in mind, the entire team at GM North America looks forward to a terrific 2015.

Sincerely,



Alan Batey  
President, GM North America



"GM business in South America is at a transformative stage. From 2014 to 2018, GM will invest USD 3 billion in Brazil and USD 740 million through 2016 in Argentina."

JAIME ARDILA, EXECUTIVE VICE PRESIDENT  
AND PRESIDENT SOUTH AMERICA

In 1925, GM established its first footprint in South America with the start of operations of GM do Brasil. As we proudly celebrate 90 years of our presence in the region, our commitment to sustainability has been recognized by some significant awards: the Leadership in Energy and Environmental Design (LEED) Gold certification for our Joinville plant, also certified as landfill-free, and the ENERGY STAR® Challenge for Industry for the Gravataí plant, both in Brazil.

This commitment is being shared not only by our employees, but also other important stakeholders, like dealers and suppliers, who took on the challenge to engage in our sustainability efforts. Both partners had their best projects in the area recognized by GM last year.

Our goal is to not only contribute to the well-being of future generations, but to proactively suggest innovative ideas that help further reduce the impact of our industry in the environment.

GM business in South America is at a transformative stage. From 2014 to 2018, GM plans to invest USD 3 billion in Brazil. We also plan to invest USD 740 million through 2016 in Argentina. The plan comprises investments in technologies related to fuel efficiency and connectivity, refreshment of the current product portfolio and development of new products.

The region has become a very competitive market, and GM has made significant progress in several areas this past year:

- Quality through compliance with the objectives of both internal and external metrics, including certification of factories in various standards.
- Positive results in customer satisfaction surveys, in which several countries exceeded 86 percent of customers completely satisfied with their shopping experience and 82 percent of customers fully satisfied in the after-sales service.

- Thanks to our excellent product portfolio and strong dealer network, we were able to gain the high regard of our clients for the Chevrolet brand, keeping sales leadership for the 12th consecutive year.

We have many challenges ahead. The next generation of our vehicles will make greater use of lighter materials and will need to improve fuel efficiency with new engines to comply with emission standards in the various countries. To mitigate the increased costs, we will have to innovate in design, engineering, development of suppliers and manufacturing, leveraging productivity in order to be more competitive.

During the last nine decades in South America, we have pioneered the industry, with leading technologies, innovative products and services, focusing on delivering high-quality cars and trucks, and growing the brand and its customer basis in South America. Our goal for Chevrolet is to inspire passion and loyalty among our customers. We want to earn customers for life.

Jaime Ardila  
President, GM South America

"Opel/Vauxhall has the best model lineup in its history, featuring state-of-the-art connectivity and technology in ultra-efficient cars with a wide range of energy options."

DR. KARL-THOMAS NEUMANN, EXECUTIVE VICE PRESIDENT AND PRESIDENT EUROPE



As a farsighted and good corporate citizen, our sustainability strategy focuses on reducing our environmental footprint while maximizing efforts to promote energy diversity and to conserve resources. We explore and utilize new, innovative technologies that reduce the environmental impact of our products and business operations. This enables us to offer our customers top-quality, environmentally conscious cars that are the ideal individual mobility partner for today's and tomorrow's customers' needs and expectations.

In 2014, the GM brands Opel, Vauxhall, Chevrolet and Cadillac sold 1.26 million vehicles in 40 countries in Europe. Opel/Vauxhall sold 1,076 million passenger cars and light commercial vehicles in Europe, making it the third-largest passenger car brand in the European Union. Sales were up in more than 15 European markets. Having sold 3.4 percent more vehicles than in the previous year, Opel/Vauxhall grew twice as much as the overall European car market and recorded its best sales and market share figures since 2011. This success is based on our modern range of cars. We are conducting the largest model offensive in our history, with 27 new vehicles and 17 new engines by 2018. We have successfully entered new segments with cars like the compact Mokka SUV, our individualization champion and lifestyle mini-car ADAM, and the elegant Cascada convertible. Opel/Vauxhall has the best model lineup in its history, featuring state-of-the-art connectivity and technology in ultra-efficient cars with a wide range of energy options including electric, gasoline, diesel, LPG and CNG propulsion that offer our customers top-quality and environmentally conscious individual mobility that meets their needs.

On the product side, we continue focusing on reducing our environmental footprint and increasing sustainability by driving forward with our current engine offensive. With the ecoFLEX models, Opel/Vauxhall offers real fuel-saving champions in all model lines. EcoFLEX models range from the electric vehicle Ampera to the family van Zafira and the new Opel Corsa. The three-door 70 kW/95 hp 1.3 CDTI EcoFLEX Corsa with Start/Stop

technology fitted as standard, braking energy recuperation and low-rolling-resistance tires combined with the new Easytronic 3.0 transmission is the latest great example of how our strategy pays off. This model can reduce CO<sub>2</sub> emissions to 82 grams per kilometer. Fuel consumption is down to an exemplary 3.1 liters per 100 kilometers for the combined cycle, making the new Corsa the most economical Opel and the most economical diesel presently available in the European market. Opel offers super-efficient turbo diesel engines in all vehicle categories — from the new Corsa to the Astra and the mid-size Insignia flagship.

On the production side, we are committed to maximizing efforts to promote energy diversity and conserve resources, thus reducing the environmental impact of our operations. We are committed to further reduce our carbon footprint and realize energy efficiencies. General Motors has set itself ambitious goals for sustainable vehicle production. Increasing the amount of renewable energy in production to 125 megawatt (MW) installed power globally in 2020 is a key goal for General Motors. With an increase of 12.5 MW (2010) to 30 MW (2020), Opel has a significant share in contributing to this ambitious goal.

Opel's pioneering role in the automotive industry in terms of environmental awareness also includes recycling. We have been using components from recycled materials in our vehicles since 1990. Back then, only four types of recycled materials were approved by Opel's engineering labs; today it is over 200. This enables us to use about 45,000 tons of recycled materials in our new vehicles every year. The Opel ADAM alone has a record-breaking 170 components that use recycled materials. This is in perfect harmony with the urban lifestyle car that saves resources, thanks to its small size, superior fuel economy and use of components that use recycled materials. This also means that its environmental footprint is already reduced during its production, as granulate from recycled materials can be produced at lower pressures and temperatures compared to new materials. The energy saved equals 30 percent lower CO<sub>2</sub> emissions.

But there is more to CO2 emissions than efficient products and manufacturing. As a responsible corporate citizen, it is also our duty to foster and participate in the discussion about guidelines and laws designed to protect our environment. The current EU legislation for CO2 emissions has obvious weaknesses. It focuses on the average fuel consumption of every manufacturer's new vehicle fleet by targeting only standard consumption per kilometer. This ignores the major source of actual emissions. That's why we suggest a model based on sensible fleet consumption limits and additional factors such as the integration in the European emissions trading scheme. This would ultimately benefit all the parties involved, including customers.

Opel is a partner in several current or recently completed initiatives researching accident-free and automated driving at the national and European levels, such as "AdaptIVE," the flagship project of the European Union on automated driving.

Opel has also made a clear commitment to delivering trendsetting innovations in connectivity to a wider audience, and we have already won several awards for our connected vehicle technologies, including the 2014 and 2015 Connected Car Award.

We take the next step in automotive connectivity for Europe by introducing Opel OnStar across the passenger car range. Already the leading global provider of connected safety and security solutions, value-added mobility services and advanced information technology in the automobile industry, Opel OnStar is a one-of-a-kind system that connects car occupants to a personal advisor — or automatically calls for help — 24/7, 365 days a year. OnStar gives occupants in-car access to a host of innovations, from Roadside Assistance and Vehicle Diagnostics to a fully integrated Wi-Fi hot spot.

Being a responsible, engaged and respectful corporate citizen in the communities and countries where we work and live remains a fundamental part of our corporate culture. The latest example is our participation in Hessentag 2017. Opel is deeply rooted in the city of Rüsselsheim, where the company was founded over 150 years ago and is the largest employer today. That is why we supported the city's successful application to host the "Hessentag 2017, the largest and oldest state festival in Germany. We will open our doors for the Hessentag visitors and celebrate together, making everyone feel at home.

Opel will continue moving forward as a pioneer in sustainability and forward-looking technology solutions and will continue to explore new and innovative approaches to drive progress in these areas. Sustainability remains a top priority for us while we are fully dedicated to the biggest turnaround in the history of the European automotive industry.

Best regards,



Dr. Karl-Thomas Neumann  
Executive Vice President and President Europe



"GMI has a portfolio of strong brands that are connecting with the diverse customer base to exceed their needs. They include Chevrolet, Cadillac, GMC, Opel and Holden."

STEFAN JACOBY, EXECUTIVE VICE PRESIDENT AND PRESIDENT INTERNATIONAL

GM International (GMI) is a region of great diversity and great opportunity. It includes nearly 100 countries and territories in Africa, Asia, Australia and the Middle East. They represent a mix of emerging and mature markets with growing middle classes and rising disposable incomes.

In 2014, GMI entered a new era with the relocation of our headquarters from Shanghai to Singapore and the change of our name (although GMI continues to report financially with GM China as GM International Operations).

GMI is driving a region-wide transformation with a clear future strategy and rigor in managing the business, clarity and alignment through closer collaboration; a culture of local entrepreneurship and passion for the customer; and a renewed identity among internal and external stakeholders.

GMI has a portfolio of strong brands that are connecting with the diverse customer base to exceed their needs. They include Chevrolet, Cadillac, GMC, Opel and Holden. GM also partners with Isuzu on manufacturing and sales in Africa, and the sale of Isuzu commercial trucks in New Zealand, and Uzavtosanoat on manufacturing in Uzbekistan.

Vehicles are offered through nearly 700 dealers and distributors. GMI markets sold more than 838,000 vehicles in 2014. GM had record sales in Egypt, Kenya and Uzbekistan, as well as its best sales in New Zealand since 2005, the Philippines since 2003 and South Korea since 2003.

In 2014, GMI markets benefited from the launch of 23 new products. Our new and upgraded models included the 2015 Holden VF Commodore in Australia; the new Chevrolet SAIL sedan and hatchback in India; a lineup of new full-size pickups and SUVs from Chevrolet, GMC and Cadillac, as well as the 2015 Cadillac ATS Coupe, in the Middle East; the new Chevrolet Malibu Diesel and reintroduced Labo and Damas mini-commercial vehicles in South Korea; and the Chevrolet Orlando in Uzbekistan. In addition, GM India began exports of the Chevrolet Beat to Chile.

GM operates more than 30 vehicle assembly, powertrain, stamping, and tool and die facilities across the region. As a sign of our commitment to quality in our manufacturing facilities, nine plants reached Built-in-Quality (BIQ) Level III, while three achieved BIQ Level IV certification. Meanwhile, GM's manufacturing facility in Rayong, Thailand, celebrated the production of its 1 millionth vehicle in 2014. At the beginning of 2015, GMI's headquarters office in Singapore received Singapore Building and Construction Authority (BCA) Green Mark Gold certification for its environmental impact and performance.

GMI believes that we have a responsibility to give back to the communities in which we do business. Our goal is to drive a better tomorrow — one that is safer, smarter and healthier.

Our markets actively leverage Chevrolet's sponsorship of the One World Play Project to bring the power of play to children in disadvantaged communities. In September, the 1 millionth Chevrolet-branded football was delivered in South Africa. Among the other projects that GMI markets engaged in during 2014 was partnership with the Buckle Up In The Back initiative in the Middle East to educate children to wear seatbelts, and the donation of 39 vehicles to social welfare facilities in South Korea by the GM Korea Employee Foundation.

GMI will continue to play a key role in GM's long-term strategy. India is set to become one of the three largest markets worldwide in the coming years. The Middle East is the fastest-growing market outside the BRIC nations and is expected to double by 2020 to 2.5 million vehicles. The next true frontier for growth will be Africa, which has untapped potential.

Our company is going in with our eyes wide open to take advantage of the opportunity in GMI and with a firm commitment to the communities where we do business.

A handwritten signature in black ink, appearing to read "J. Jacoby".

Stefan Jacoby

GM Executive Vice President and President, GM International



“...GM China’s ...CSR programs received the active support of our company’s employees and partnerships.”

MATT TSIEN, GM EXECUTIVE VICE PRESIDENT AND PRESIDENT, GM CHINA

China has been the world's largest vehicle market for the past six years and GM's largest market for the past five years. In 2014, GM had record sales as well as record market share in China. GM and our joint ventures sold 3.5 million vehicles — an average of one car or truck every nine seconds. GM China gained a half point of market share, reaching 14.7 percent, as the Cadillac, Buick, Chevrolet, Wuling and Baojun brands all had their best year ever.

GM and our joint ventures achieved a major milestone in September when we surpassed 20 million cumulative sales in China since the first vehicle was driven off the assembly line at Shanghai GM in 1998. Our Shanghai OnStar telematics joint venture also reached a milestone when it surpassed 800,000 active subscribers in November.

A key to GM's success remained our unmatched lineup of products under six brands. We introduced several important new models in 2014, including the Chevrolet Trax urban SUV, Buick Envision premium mid-size SUV, Cadillac ATS-L luxury sport sedan and Baojun 730 seven-seat family vehicle. Our Shanghai GM and SAIC-GM-Wuling joint ventures continued to expand their manufacturing footprint to keep up with the rising demand for their products.

Another key to GM's success was our ongoing support of a safer and healthier community in China.

GM's manufacturing facilities in China are among the most efficient in GM's global portfolio. Twelve joint venture plants in China have met the U.S. Environmental Protection Agency's ENERGY STAR® Challenge for Industry, which requires a 10 percent reduction in energy intensity within five years. GM also has 11 landfill-free operations in China, which on average reuse recycle or compost 94 percent of their waste from daily operations and convert the rest to energy, with a small fraction incinerated.

GM has extended our focus in this area to our suppliers. The Green Supply Chain Program, launched in 2005, is helping local parts and components manufacturers improve their efficiency. Shanghai GM is currently working with 27 supplier plants across China.

We have a similar goal of making our products leaders in fuel efficiency. The fuel consumption and carbon emissions of the new generation of vehicles from Shanghai GM have been improved by 8 percent compared to the previous generation. In its fourth year, the 2014 GM China Consumer Fuel-Saving Challenge showcased the fuel economy of products from the Buick, Chevrolet and Baojun brands.

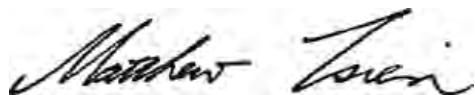
GM and our joint ventures are now preparing to introduce a range of new energy vehicles, including hybrids, plug-in hybrids, extended-range electric vehicles and pure electric vehicles.

Looking further into the future, GM signed a memorandum of understanding with Shanghai Jiao Tong University to collaborate on a vehicle-sharing program featuring the Chevrolet EN-V 2.0 electric vehicle concept, which was designed, engineered and built in Shanghai. This is supporting GM's vision of a future of driving that will be free from petroleum, emissions, accidents and congestion. GM also joined hands with the Wuhan University of Technology to support its new Partners for the Advancement of Collaborative Engineering Education (PACE) Center, which is helping train the next generation of automotive industry professionals.

The GM Restoring Nature's Habitat Project, Safe Kids Safe Ride Project and Chevrolet Red Chalk Program were among our key corporate social responsibility activities carried out in 2014. These and GM China's other CSR programs received the active support of our company's employees and partnerships.

GM's success has not gone unnoticed. GM China was recognized as the fourth-best Fortune 500 Company in CSR at the 2014 Corporate Social Responsibility Annual Conference in Beijing, and GM's Guangde Proving Ground was the first facility in China recognized by the Wildlife Habitat Council for creating a wildlife habitat and enhancing biodiversity.

Vehicle sales in China are set to rise once again in 2015. GM will continue to take advantage of the growth opportunities by expanding our portfolio of vehicles and services, while supporting corporate social responsibility and the sustainable development of the automotive industry.



Matt Tsien  
GM Executive Vice President and President, GM China

## 2014 SUSTAINABILITY REPORT



### APPROACH

#### IN THIS SECTION:

Profile	21
Reporting Practices	22
Stakeholder Engagement	24
Sustainability Strategy	27
Environmental Principles & Management	29
Governance	32
Ethics	33



## GENERAL MOTORS IS ONE OF THE WORLD'S LARGEST AUTOMOTIVE COMPANIES

## OUR BRANDS



Chevrolet



Buick



GMC



Cadillac



Opel



Vauxhall



Holden



Baojun



Wuling



Jiefang

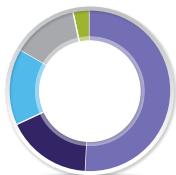
## OUR OPERATIONS

120+ COUNTRIES

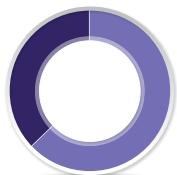


## OUR PEOPLE

## EMPLOYEES BY REGION



## EMPLOYEES BY TYPE



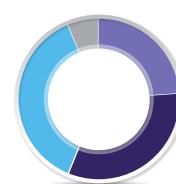
2014 TOTAL EMPLOYEES



216,000

## OUR DISTRIBUTION

## AUTHORIZED DEALERSHIPS BY REGION



19.2% fleet sales as a percentage of total sales

One of the strategic pillars of our global sustainability function is transparency. In this spirit, we are committed to public reporting on an annual basis of our progress, discussing the opportunities and challenges that we encounter as we work to enhance our sustainability performance, and conducting our business in the most responsible manner possible. The reporting process not only helps us to manage our progress, but also helps to inform and engage both internal and external stakeholders around the world.



An urban garden takes root on a parking garage roof adjacent to our global headquarters in Detroit.

## SUSTAINABILITY REPORTING

This is General Motors' fifth consecutive sustainability report. Our last report was published in May 2013. The editorial content of the 2014 Sustainability Report generally covers subject matters for 2014 and is limited to operations owned and/or operated by GM. In some instances, data has been included for operations in which GM's interest is through a joint venture. Such data is noted in this report. All metrics in the report refer to the calendar year ended Dec. 31, 2014. This report has been prepared according to the Global Reporting Initiative (GRI) G4 Core guidelines.

## ASSURANCE

For 2014, Conestoga-Rovers & Associates (CRA) conducted an independent review for limited assurance on waste, water, carbon and energy data for global facilities. See page 107 for CRA's full statement of assurance. Due to limited assurance on most material data streams within the report, neither the GM Board of Directors nor senior management is involved in seeking assurance for the report.

## MATERIALITY

During 2014, we conducted a materiality assessment to build upon a previous assessment conducted in 2012 to inform both our sustainability strategy development and report content. A third party, Sustainalytics, conducted the assessment based on a four-step process outlined in GRI's Technical Protocol:

### *Identify*

Desk-based research was used to identify a list of potentially material issues, which were compiled from various sources including the GRI automotive sector supplement (draft), peer group sustainability reports and investment research reports. From this research, a list of 17 issues and more than 100 sub-issues was compiled.

### *Prioritize*

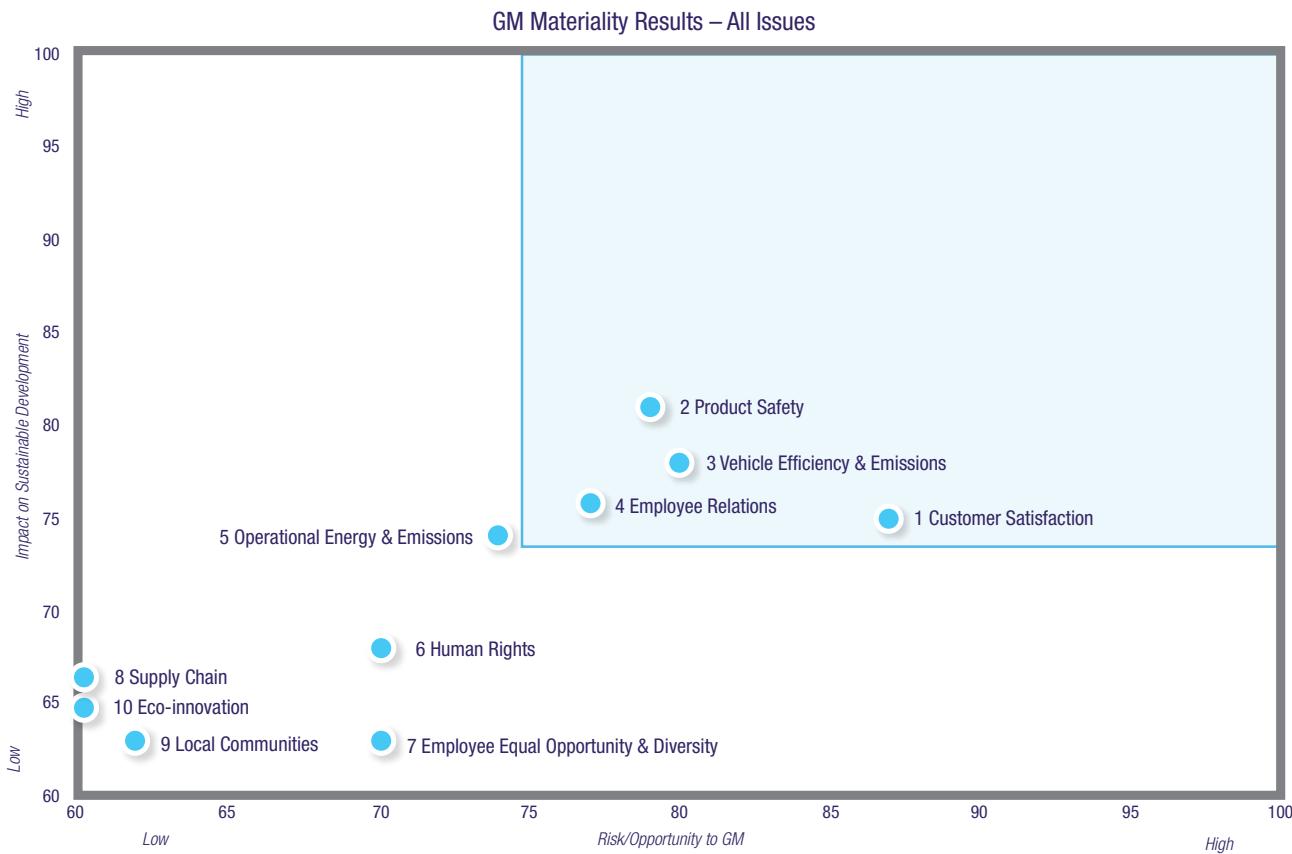
A survey was developed for the purpose of better understanding and prioritizing the issues most relevant to General Motors' business. The survey was distributed to internal and external GM stakeholders. Employees were asked to what degree the management of an issue impacted GM's long-term success, while external stakeholders were asked to rank the importance of GM's management of a given issue. Respondents, who included 795 GM employees and 72 external stakeholders, also were invited to suggest additional issues.

### *Validate*

Survey results were compiled to determine an impact score for each issue. These results were validated through a peer and meta-analysis that compared them with automotive industry and sustainability issues. Sustainalytics' automotive analysts, who track 44 companies in the sector, reviewed and prioritized the validated list from an industry perspective.

### *Review*

Our reporting team reviewed the final results of the materiality assessment and grouped the most material issues into eight focus areas for the purpose of reporting. These focus areas encompass our 10 most material issues as defined by both internal and external stakeholders. Within these focus areas, we also have included discussion of several more specific issues, such as water and waste management, that we believe are important to our long-term success.



Material Issue	Report Location
1. Customer Satisfaction	<a href="#">Customer Satisfaction</a>
2. Product Safety	<a href="#">Vehicle Safety</a>
3. Vehicle Efficiency & Emissions	<a href="#">Fuel Efficiency &amp; CO2 Emissions</a>
4. Employee Relations	<a href="#">GM People</a>
5. Operational Energy & Emissions	<a href="#">Operational Impact</a>
6. Human Rights	<a href="#">Supply Chain; Ethics</a>
7. Employee Equal Opportunity & Diversity	<a href="#">GM People</a>
8. Supply Chain	<a href="#">Supply Chain</a>
9. Local Communities	<a href="#">Community Impact</a>
10. Eco-Innovation	<a href="#">Innovation</a>

#### CDP REPORTING

General Motors began its association with the Carbon Disclosure Project (CDP) in 2010, when we began tracking carbon emissions and reduction activities through the CDP Climate Change Program. Our first results were released in 2012. In 2013, we expanded our carbon reporting to include all 15 categories of Scope 3 emissions, achieving our goal one year ahead of our original plan. We are proud to have received an "A" rating for the past two years and to have scored a 100 on the program's transparency scale.



In addition to the CDP Climate Change Program, we have voluntarily participated in the CDP Water program since 2011. For the past two years, we also have participated in the CDP Supply Chain program, a voluntary initiative to help increase engagement with suppliers on environmental performance and disclosure, particularly around reducing CO2 emissions. Read more about the results of our CDP supplier survey in the [Supply Chain section](#) of this report. We continue to use the information gained from the program to more accurately measure our indirect greenhouse gas (GHG) emissions and water impact, as well as to help prioritize our climate change risk management within the GM supply chain.

Our success depends on the relationships inside and outside of GM. Our engagement with stakeholders is driven by our core values and continues to evolve as we further define and expand our global sustainability effort.



We have identified our primary stakeholders as:

- Customers, both fleet and individual
- Dealers
- Employees, both current and potential new talent
- Investors and analysts
- Suppliers, Tier I and beyond
- Communities in which we operate
- Governments at the national, state/provincial and local levels
- Nongovernmental organizations (NGOs)

We engage these stakeholders in a variety of ways, all with the goal of effectively facilitating a meaningful dialogue. Brand marketing, investor relations, global purchasing, human resources, labor relations and government relations are some of the GM functions that engage stakeholders on a regular basis to understand and address concerns. Forms of engagement include, but are not limited to, quantitative consumer research studies, employee focus groups, congressional testimony, blog posts and community meetings.

#### GLOBAL SUSTAINABILITY STAKEHOLDER STRATEGY

We have partnered with Ceres, a nonprofit organization advocating for corporate sustainability leadership, to help us regularly engage with an external sustainability stakeholder advisory group. This group consists of NGOs, Socially Conscious Investors (SCIs), a peer company and a supplier, to help guide our strategy and focus, as well as to provide informed feedback about opportunities and challenges.

The following table summarizes the recommendations from our most recent meetings with our Ceres sustainability stakeholder advisory group in September 2014 and January 2015, and the actions we have taken to date. We continue to find this feedback valuable as it influences our decision-making process and serves as a guiding framework for our sustainability priorities.

Ceres Stakeholder Feedback	Actions Taken
Lead the research and development of safe, low carbon vehicles.	<ul style="list-style-type: none"> <li>Expansion of our EV portfolio with the launch of the next-generation Chevrolet Volt for model year 2016 and announcement of the Chevrolet Bolt EV concept</li> <li>Ongoing research and development in advanced propulsion technologies such as natural gas and hydrogen fuel cells</li> </ul>
Leverage resources and opportunities to further promote the value proposition of electric vehicles for consumers.	<ul style="list-style-type: none"> <li>Collaboration with external stakeholders to educate consumers and proliferate EV charging infrastructure through programs such as the U.S. Department of Energy's Workplace Charging Initiative</li> </ul>
Continue to develop a robust supply chain engagement strategy around sustainability efforts, including human rights and fair labor practices, environmental performance, and capacity-building and training programs.	<ul style="list-style-type: none"> <li>CDP Supply Chain Program, a voluntary initiative to promote engagement with suppliers on environmental performance, increased second-year participation</li> <li>Engagement with the Automotive Industry Action Group (AIAG) to develop and implement supply chain responsibility training programs</li> </ul>
Continue to refine and make progress toward stated manufacturing and product commitments.	<ul style="list-style-type: none"> <li>Assessment of opportunities to develop product goals that demonstrate leadership in environmental performance, innovation and technology for key markets around the world</li> <li>Evaluation of global manufacturing commitments achieved, such as waste reduction and emissions from volatile organic compounds (VOCs), and how to set new leadership targets for impacts most material to our business</li> <li>Provide additional context for commitments so stakeholders better understand impact and opportunities</li> </ul>
Help advance opportunities for how sustainability is perceived and valued in capital markets.	<ul style="list-style-type: none"> <li>Continued development and disclosure of performance metrics and initiatives that clearly link sustainability efforts to financial value and risk mitigation</li> <li>Collaboration with Investor Relations team to promote sustainability priorities and ESG performance, and respond to interest from investors in our activities</li> </ul>
Demonstrate continued leadership in waste management by evaluating end-of-life recycling opportunities for vehicles.	<ul style="list-style-type: none"> <li>Supplier life cycle analysis to assess greenhouse gas (GHG) emissions, energy and water impacts of vehicle parts</li> </ul>
Play a more visible role on key policies that can impact our value chain.	<ul style="list-style-type: none"> <li>Increased visibility on sustainability-related policy issues such as the Renewable Energy Buyers Principles</li> <li>Continued support and endorsement of the BICEP climate declaration</li> <li>Senior leadership involvement in key global conferences and events to discuss policy opportunities, such as the World Economic Forum in Davos and Clinton Global Initiative Annual Meeting</li> </ul>
Link materiality of sustainability-related opportunities with risk management.	<ul style="list-style-type: none"> <li>Engagement with our strategic risk management team on sustainability priorities such as water availability</li> <li>Participation of global sustainability team in GM's risk officers group</li> </ul>

## STAKEHOLDER PARTNERSHIPS



A key outcome of our work with Ceres was becoming the only automaker signatory to date of the "Climate Declaration," which

asserts that there is economic opportunity in addressing climate change. The declaration is an initiative of Ceres' Business for Innovative Climate & Energy Policy (BICEP) and calls for policy-makers to address climate change by promoting clean energy, boosting efficiency and limiting carbon emissions. We see significant business value in continuing to support the

BICEP climate declaration and encourage other companies to do so as well.

Our engagement with Ceres demonstrates the effectiveness of our strategy to work with the most impactful organizations and pursue more meaningful partnerships around sustainability issues that are critical to our business. In addition to Ceres, we work closely with organizations such as the World Wildlife Fund (WWF) and the World Resources Institute (WRI) to provide guidance on a range of issues, such as climate change, water risk management, environmental education and sustainable transportation.



In 2014, we were pleased to become one of 12 companies to sign the Renewable Energy Buyers' Principles developed by WRI and WWF — a clear set of guidelines designed to help utilities and renewable energy providers understand how they can help make

renewable energy investments easier for companies and meet rising demand. Additional information about the Renewable Energy Buyers' Principles is available at [www.worldwildlife.org/pages/powering-businesses-on-renewable-energy](http://www.worldwildlife.org/pages/powering-businesses-on-renewable-energy).

To further the cause for renewable energy, GM became a founding member of the Business Renewables Center, a collaborative platform launched in January 2015 by the Rocky Mountain Institute. The center aims to accelerate corporate renewable energy procurement with a goal of nearly doubling U.S. capacity of wind and solar energy by 2025. The Renewable Energy Buyers' Principles helped set the framework for this partnership and guides the Business Renewables Center.

We also continue to participate in key stakeholder dialogues around *The 3% Solution: Driving Profits Through Carbon Reduction*, an effort led by CDP and WWF to mobilize U.S. industry to reduce greenhouse gas (GHG) emissions in line with scientific targets while capturing significant savings and driving business value. In collaboration with McKinsey & Company and Point380, WWF and CDP use *The 3% Solution* to illustrate how the private sector could save up to \$780 billion over 10 years by reducing emissions by an average of 3 percent annually and increasing energy efficiency investments by a mere 1.6 percentage points. GM supports this initiative and is exploring how it can inform the next generation of goals. More information on *The 3% Solution* can be found at [www.the3centsolution.org](http://www.the3centsolution.org).

Another important forum for stakeholder engagement in recent years has been through the Chevy Carbon Reduction Initiative. This \$40 million commitment by Chevrolet seeks to invest in projects that will help reduce up to 8 million metric tons of carbon, the equivalent of planting a forest the size of Yellowstone. The Initiative is guided by an advisory board that includes representatives from Bard College, BEF (Bonneville Environmental Foundation), the Carbon Neutral Business Network, the Center for Climate and Energy Solutions (C2ES), The Climate Group, the University of California-

Santa Barbara and several independent consultants. Recent activities have included collaborations with 11 U.S. colleges across the country to strengthen investments in clean energy-efficiency projects on school campuses, based on a carbon credit methodology developed by Chevrolet and its advisors and approved by the Verified Carbon Standard (VCS).

Also in the U.S., we are members of several advisory boards where we can share our experience and help promote corporate environmental leadership. One of these is the Corporate Advisory Council for the BlueGreen Alliance, which is comprised of 14 of the largest unions and environmental organizations in the U.S. that focus on building a cleaner and more competitive economy. We also serve on the Business Environmental Leadership Council with the Center for Climate and Energy Solutions, the largest U.S.-based group of corporations focused on addressing the challenges of climate change.

#### STAKEHOLDER ENGAGEMENT AROUND THE WORLD

Stakeholder engagement is not only important in the U.S., but also is a key component of our global commitment to sustainability. In Argentina, for example, we work with NGOs such as UNICEF, Societas Socialis (SOS) Children's Villages, Vital Voices, the Junior Achievement Foundation, One World Fútbol, and other local associations like Compromiso Foundation, La Higuera and others to promote issues important to our company and communities where we operate.

In China, we are engaged with Partners for the Advancement of Collaborative Engineering Education (PACE) and the Green Supply Chain Program, to name just a couple of our collaborations in the market. We also work with SafeKids International to promote car seat use and automotive-related child safety practices, and efforts are underway to expand the partnership in other countries around the world.

Our global stakeholder engagement efforts also extend beyond NGOs. In the United Kingdom, we maintain a number of relationships with stakeholders — policymakers, local enterprise partnerships, Society of Motor Manufacturers and Traders and the Low Carbon Vehicle Partnership, among others — to host an open and constructive dialogue and identify key issues important to Vauxhall's and GM's long-term success in the region.

More so than ever, GM is a purpose-driven company. Part of who we are and why we are here is to serve our customers and improve the communities where we live and work. Our core values put the customer at the center of everything we do, while holding ourselves accountable to the highest standards of excellence. We recognize that our success depends on both internal and external relationships that bring diverse thinking and a collaborative approach to our business.



*The Sail SPRINGO EV is a high-performance electric vehicle that reflects Shanghai GM's long-term commitment to produce vehicles that consume zero fuel and generate zero tailpipe emissions.*

Our customers expect us to provide them with safe and unfettered mobility, and to do so in a responsible manner. More specifically, they expect us to help mitigate, if not eliminate, driving challenges such as traffic accidents, pollution and even congestion. For GM to thrive well into the future, it is imperative that we provide solutions that address these issues.

Our challenge is to do so while our industry is undergoing significant change. In fact, we expect our industry to change more in the next five years than it has in the previous 50 years as the nature of customer interaction evolves, the importance of environmental efficiency increases, technology reshapes the industry, and global growth shifts to new markets. Our opportunity is to play a leading role as our industry continues to change and be a driving force in transforming transportation.

Through the lens of sustainability, we view industry challenges and change as new business opportunities that can drive additional value for our customers. We call this Customer-Driven Sustainability. From designing more fuel-efficient vehicles and deploying advanced-safety technologies to being the workplace of choice for employees and the neighbor of choice for communities, we make strategic decisions based on how the outcome of those decisions ultimately translates into value for

our customers. In the process, we're executing key business imperatives that are "sustainable" rather than viewing sustainability as a separate corporate initiative. This approach creates positive benefits for our stakeholders, drives long-term success for GM and enables each employee at every level of our company to help build value for the customer.

We measure value creation through sustainability in three primary ways:

- Top-line growth opportunities range from vehicle purchases by environmentally conscientious consumers who want to do business with a company viewed as socially responsible, to new business models based on emerging urban mobility trends to new revenue streams from our proactive waste management activity.
- Bottom-line improvements are realized by taking a systemic approach to our operations and business processes that eliminate cost, drive efficiency and increase productivity.
- Risk mitigation may utilize sustainability as a lever where matters of reputational integrity are involved, or where we anticipate potential operational disruptions due to resource scarcity. Management of supply chain issues and minimization of the use of rare earth minerals are examples of risk mitigation.

## AN EVOLVING STRATEGY: FROM ALIGNMENT TO INTEGRATION

Our Customer-Driven Sustainability strategy has evolved in recent years as we have focused on building the foundation of a global sustainability practice by:

- Identifying areas of impact and value creation
- Establishing and aligning corporate policies and positions
- Designing and implementing processes for consistent global execution
- Developing sustainability reporting practices and publishing reports

We have measured our progress through the creation of operational and product commitments. These commitments emphasized aggressive and continuous operational improvements, as well as an accelerated rollout of technology.

With much of this foundational work now complete, we are focused on further integrating sustainability into our business through GM's Purpose and Values. In particular, our work will be driven by five corporate strategic priorities:

- Earn Customers for Life
- Grow our Brands
- Lead in Technology and Innovation
- Drive Core Efficiencies
- Culture to Win

In the context of serving customers and improving communities, the opportunity to create value and have a positive impact on the world is significant. The following illustrates how environmental and social sustainability can help drive these priorities.

We aspire to serve customers and improve communities with a "zero" impact mindset. And our work will be grounded in our values, with the customer as our compass to guide decisions, with strong and transparent stakeholder relationships, and with excellence as our standard.



We currently maintain nearly 400 facilities, including more than 170 manufacturing operations around the world. No two facilities are alike and there is a great range among them in terms of size, function, processes and local environment. All GM-owned and operated facilities, however, operate under a common set of Environmental Principles, which continue to provide an effective foundation for environmental stewardship at the company.



*At Opel headquarters in Rüsselsheim, Germany, the atrium and artificial lake islands provide a showroom for the latest GM models.*

#### GM ENVIRONMENTAL PRINCIPLES

As a responsible corporate citizen, General Motors is dedicated to protecting human health, natural resources and the global environment. This dedication reaches further than compliance with the law to encompass the integration of sound environmental practices into our business decisions. The following Environmental Principles provide guidance to General Motors personnel in the conduct of their daily business practices.

<p>We are committed to actions to restore and preserve the environment.</p>	<p>We are committed to reducing waste and pollutants, conserving resources and recycling materials at every stage of the product life cycle.</p>	<p>We will continue to participate actively in educating the public regarding environmental conservation.</p>
<p>We will continue to pursue vigorously the development and implementation of technologies for minimizing pollutant emissions.</p>	<p>We will continue to work with governmental entities for the development of technically sound and financially responsible environmental laws and regulations.</p>	<p>We will continue to assess the impact of our plants and products on the environment and the communities in which we live and operate with the goal of continuous improvement.</p>



The GM Battery Lab

#### ENVIRONMENTAL GOVERNANCE

GM has a robust process to enhance the integration of environmental sustainability practices into daily business decisions and to (1) comply with applicable environmental laws and regulations; (2) monitor GM's performance according to GM's own Environmental Performance Criteria (EPC), which set the minimum standards; and (3) conformance to other key performance indicators; e.g., landfill-free sites.

Each GM manufacturing site has one or more environmental engineers, who are supported by a GM regional environmental team. Our Global Manufacturing organization oversees and manages these GM regional environmental teams. We also have an annual business planning process, known as Business Plan Deployment (BPD), to strengthen the management of environmental performance (e.g., linking more Global Manufacturing employees to GM's performance against our 2020 manufacturing commitments). Furthermore, throughout our manufacturing organization, annual compensation is based on performance to the BPD, which includes environmental metrics.

#### ENVIRONMENTAL PERFORMANCE

Implementation of our Environmental Principles is facilitated by a set of Environmental Performance Criteria (EPC) that apply to our manufacturing facilities and major technology centers globally. The EPC are internal performance requirements for the management of environmental issues at our facilities. In many cases, they also supplement applicable legal requirements by setting minimum standards for environmental management and performance practices that are higher than those required by law. As a result,

we work to ensure that a base level of environmental performance is achieved, regardless of where a facility is located or whether a particular jurisdiction has an environmental regulatory program in place. For example, the EPC establish a global baseline standard for all new assembly operations with regard to paint shop emissions and associated minimum technology requirements, regardless of whether or not the country in which the paint shop is operated has adopted specific air emissions requirements.

#### ENVIRONMENTAL POLICY

We believe our past achievements in the area of environmental stewardship are the result of a combination of global principles, our Environmental Policy, the EPC and local policies. With our Environmental Principles as a foundation, this combination provides a framework for our manufacturing facilities and major technology centers around the world to implement global policy, consistent and complementary local policies and the EPC. This approach helps us to strive for operational compliance across all sites at all times and to embed a philosophy of continuous improvement into each facility's environmental management system. These plant-specific actions play a significant role in our overall environmental compliance, ensuring that local plant policies:

- Are appropriate to the nature, scale and environmental impacts of its activities, products or services.
- Reinforce a commitment to comply with applicable legislation and regulations and with other relevant environmental requirements.
- Include a commitment to continuous improvement and pollution prevention.

- Provide the framework for setting and reviewing environmental objectives and targets.
- Are documented, implemented, maintained and communicated to all employees.

Statutory, regulatory and permit programs administered by various governmental agencies impose numerous environmental requirements on our facilities and products.\* Given these extensive requirements, compliance issues occasionally arise. Each allegation of noncompliance is treated seriously. Actions involving agency and private party allegations are often settled, even though GM may not agree that a violation has occurred. In these situations, GM does not admit liability, but settles the matter if it is determined that settlement is preferable to litigation. In 2014, GM received 39 Notices of Violation (NOVs), 26 in the U.S. and 13 outside the U.S. In 2014, GM did not pay any significant\*\* fines to resolve these NOVs.

#### ENVIRONMENTAL MANAGEMENT SYSTEM

All the manufacturing facilities that GM owns and operates, and a number of our nonmanufacturing sites around the world, have implemented an Environmental Management System (EMS). This system combines elements of the environmental management standard International Organization for Standardization (ISO) 14001 and elements that are specific to our operations. The GM EMS is designed to drive a continuous performance improvement cycle in line with legal requirements, site-specific objectives and targets and corporate and regional policies and strategies.

GM has developed a robust internal process to self-declare conformance to ISO 14001. Our U.S. and Mexican operations use this process to self-declare conformance to the ISO EMS standard. GM operations in other regions currently utilize third-party accredited registrars to certify conformance to ISO. New manufacturing operations must develop and implement EMS within 24 months of the start of production or the date of acquisition. Our operations in the U.S., Canada and Mexico have integrated their EMS within the GM Global Manufacturing System and Business Plan Deployment process, resulting in an EMS with attributes beyond those specified in ISO 14001.

By maintaining a common EMS, we can measure our environmental performance and share knowledge, processes and technologies within GM to plan and measure improvements across all our manufacturing facilities. Our environmental management practices have helped us improve our environmental performance.



*Our Environmental Management System (EMS) drives continuous improvement by helping us to measure and manage our operational impacts.*

#### EMPLOYEE TRAINING

Our people are key stakeholders in our environmental stewardship and are critical to our environmental performance. We strive to have the best-trained environmental professionals in the world. Although most environmental training is specific to the facility, country or region, we continually provide strategic training and guidance to our environmental professionals to help them keep pace with evolving environmental issues and best practices that could have application worldwide. Our training addresses a variety of issues including, but not limited to: implementation of corrective and preventive actions, effective use of safety data sheets, management of greenhouse gases, and regulatory requirements for air, waste and water.

In the U.S., we have set a goal for all our facilities' environmental professionals to become Certified Hazardous Materials Managers (CHMM®). The certification requires a relevant degree and three years' appropriate experience or 11 years' experience without a degree, and the successful completion of an Institute of Hazardous Materials Management® exam. In order to maintain certification, at least 20 hours of technical environmental training is required annually. In Canada, new environmental professionals receive at least 40 hours of training initially, followed by regular refresher training. In addition, some Canadian environmental professionals receive specialized training as certified toxic substance reduction planners. Outside North America, we have developed a Global Environmental Certification and Training Program that focuses on GM Environmental Principles, our internal environmental performance criteria and industry best practices.

\*Automobile Manufacturing Environmental Regulatory Profile Prepared by Horizon Environmental Corporation, December 2014.

\*\*Consistent with the U.S. Securities and Exchange Commission's reporting procedures, "significant" is deemed to be a monetary sanction of \$100,000 or greater. See SEC Regulation S-K, Item 103. See more at: [www.gm.com/vision/environment1/our\\_commitment.html](http://www.gm.com/vision/environment1/our_commitment.html)

For General Motors, the Board of Directors' mission is to represent the owners' interest in perpetuating a successful business, which includes optimizing its long-term financial returns.



Above: The General Motors Board of Directors enjoyed a preview of the CHEVROLET BOLT EV CONCEPT CAR, as it debuted at the 2015 North American International Auto Show in Detroit. Pictured left to right: Kathryn Marinello, Joseph Ashton, Carol Stephenson, Erroll Davis, Theodore Solso, Mary Barra, Michael Mullen, James Mulva, Thomas Schoewe, Patricia Russo, Stephen Girsky  
Not Pictured: E. Neville Isdell, Linda Gooden

GM's Board of Directors is comprised of 13 members, as of March 31, 2015. With the exception of CEO Mary Barra, former Vice Chairman Stephen Girsky and former UAW vice president Joseph Ashton, all the Directors are independent, as defined by the Board's Corporate Governance Guidelines, which are based on the standards of the U.S. Securities and Exchange Commission and the New York Stock Exchange.

The Board has the following standing committees: Audit, Directors and Corporate Governance, Executive Compensation, Finance, Public Policy, and Risk. The Audit, Executive Compensation, and Directors and Corporate Governance Committees are comprised entirely of independent Directors. The Finance and Risk Committees consist of a majority of independent Directors. The membership of each committee is listed in the [Investor Relations](#) section of the company's website. Each standing committee has a written charter setting forth its purpose, authority and duties. These are also available on the Investor Relations section of the company's website and are also described in our Proxy Statement.

#### SUSTAINABILITY GOVERNANCE AND OVERSIGHT

The Board is ultimately responsible for overseeing the company's management of risks, including oversight of its Strategic Risk Management (SRM) program and processes. The Board implements its authority in this area both as a whole, as well as through delegation to its committees, including the Risk Committee. The Board receives regular reports from management on the status of key and emerging risks within the company, through review of the company's strategic plan and through regular communication with its committees. The committees, which meet regularly and report back to the full Board, play a significant role in overseeing the company's management of risks within their areas of responsibility.

At GM, our business is guided by our purpose and values, which are not only a road map for sustainability, but also are the drivers of all our business decisions and activity worldwide. We recognize that our business is more than making great products; it's about building trust with our stakeholders, and trust is fundamental to our business success.

It starts with our core values, especially the values of Integrity, Individual Respect, Responsibility, Transparency and Accountability. All corporate activities are measured against our values and put into practice through *Winning With Integrity*, GM's Code of Conduct, which outlines the policies and obligations that guide our business conduct. The ethical standard at GM begins with the Board of Directors, which is committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities. All Directors, Officers and employees are expected to act ethically at all times and to adhere to GM's policies and the law, as set forth in *Winning With Integrity*.

Every salaried GM employee worldwide is required to read, understand and annually certify compliance with the policies covered under *Winning With Integrity*. Additionally, all salaried employees, regardless of role or location, also provide written disclosure of any actual or potential conflicts of interest. Board Members who are not employees provide written disclosure of any actual or potential conflicts of interest at least once a year. If an actual or potential conflict of interest arises for a Board Member in the interim, he or she will promptly inform the Chairman. If a significant conflict continues to exist and cannot be resolved, the Board Member should resign. All Board Members must recuse themselves from any discussion or decision affecting their business or personal interests.

*Winning With Integrity* governs how our employees are expected to act; displaying integrity in the workplace, in the marketplace and in their communities when representing GM. Additionally, *Winning With Integrity* directs all employees to be good stewards of the environment as embodied in our Environmental Principles, which guide the conduct of our daily business practices worldwide.

*Winning With Integrity* also outlines what is considered misconduct, including what constitutes misuse of company property, discrimination, harassment, conflicts of interest, unethical behavior, or misuse of information or computer systems. Additionally, *Winning With Integrity* provides guidance about what may constitute unfair competition or insider trading, export compliance, privacy, anticorruption and interactions with government officials.

As we strive to win in the changing global marketplace, *Winning With Integrity* remains the cornerstone of our corporate values. We are committed to maintaining a corporate culture that promotes trust. We strive to create diverse work environments that accept and tolerate differences while promoting productivity and teamwork.

## 2014 SUSTAINABILITY REPORT



### ISSUES

#### IN THIS SECTION:

Customer Satisfaction	35
Vehicle Safety	39
Fuel Efficiency & CO2 Emissions	43
GM People	51
Operational Impact	59
Supply Chain	66
Community Impact	71
Innovation	77





## CUSTOMER SATISFACTION

Sustaining our business by earning customers for life

### PROGRESS:

- Implemented a wide range of initiatives across all GM brands globally to better serve our customers and increase satisfaction levels.
- Committed to the Consumer Privacy Protection Principles set forth by the Alliance of Automobile Manufacturers.
- Developed our Global Connected Customer Experience organization, combining management of all customer touchpoints, allowing leaders to directly impact the customer's experience.

### PRIORITIES:

- Increase Net Promoter Score (NPS) among GM customers, converting brand detractors and passives into promoters. NPS measures the willingness of customers to recommend a company's products and services to others.
- Continue building and formalizing a Customer Experience organization across GM brands.
- Consolidate customer interaction systems to offer a more personal and seamless customer experience.
- Complete customer-oriented Six Sigma training for all Global Vehicle and Powertrain Engineering and Product Program employees globally.

### CHALLENGES:

- Reinforcing the need for a more consistent customer-centric focus among stakeholders across our value chain, especially among suppliers and dealers.
- Overcoming negative customer perceptions based on past performance and experiences.
- Managing increased cybersecurity risks in a rapidly changing technology and regulatory environment.

At GM, we are here to earn customers for life, by delivering products and services that delight our customers, who are crucial to sustaining the long-term success of our business. Our stakeholders have identified customer satisfaction as a priority for GM, which makes compelling business sense in a highly competitive marketplace. Consider that a single percentage point improvement in U.S. sales retention is equivalent to selling about 25,000 vehicles, or approximately \$700 million in annual revenue.

Customer satisfaction also speaks to what we believe as a company. Our goal as a business is to provide our customers with quality and safe products and services. We strive to meet our customers' needs and exceed their expectations. Today we are more focused on this responsibility than at any other time in our history.

This focus has required us to engage many different stakeholders that span our entire value chain — from suppliers to employees to

dealers. We've also taken a "clean sheet" approach to developing a customer-experience strategy. The idea is to *not* take a traditional automotive company approach, but to look beyond our industry to true standouts in customer satisfaction, such as Amazon or Zappos. By doing so, we see a significant opportunity to establish a new standard of excellence for the overall automotive customer experience. The goal is to please our customers to a level that they are not only loyal to our brands and products, but also go out of their way to recommend them to others.



Built in India, the Beat is a fuel-efficient, three-door hatchback concept with three fuel options — gasoline, diesel and LPG.

## PRODUCT QUALITY

Today's sophisticated global customers define quality as much more than a lack of defects. As part of GM's customer-centric strategy, quality is inextricably linked to exceeding customer expectations before, during and after the vehicle purchase. The strategy that has emerged is focused on three global quality components:

**Initial Quality:** We are focused on delivering world-class quality products that inspire passion and loyalty among our customers. One way we are doing so is by "front loading" more quality validation processes for parts and components into the vehicle design process. As a result, we can refine designs and manufacturing processes long before we ever ship any vehicles to customers, helping to ensure better-quality vehicles from day one.

**Long-Term Reliability and Durability:** New processes are also in place to look at the entire life cycle of the vehicle from a quality perspective. When we find quality gaps, we apply engineering tools to address them. For example, we know that accumulation of rust on brake rotors can contribute to premature or uneven wear, which can mean an expensive repair. Our brake experts have attacked the problem with an exclusive corrosion protection process that helps prevent rust and doubles the life of the rotors, dramatically reducing brake rotor service claims on vehicles with these rotors, and resulting in 80 to 90 percent fewer repairs — saving customers money and preventing inconvenience.

**Product Excellence:** This area focuses on the softer side of quality. We go far beyond ensuring that our vehicles are reliable — we work to ensure that the vehicle exceeds the

customer's expectations for quality and functionality. Consider the overall driving experience: how buttons feel when pushed or the type of sound the door makes when closing. These quality attributes are often difficult for our customer to describe and our engineers to quantify. We're using new advanced tools to help us take customers' requirements and translate them into technical specifications.

With these foundational strategies in place, we are implementing programs around the world to help GM employees at every level better focus on customers. By the end of 2015, for example, our Global Vehicle Powertrain and Engineering and Product Program organizations will have completed the highest level of Design for Six Sigma (DFSS) training, a process that focuses on customer issues and solutions. In China, we are utilizing Built-in Quality (BIQ) Enterprise certification to get our plants and products to industry benchmark quality levels as recognized by our customers. Already, six plants have attained the highest BIQ level, and all plants have action plans in place to help them progress through BIQ levels to reach a "zero-defects" goal.

## CUSTOMER EXPERIENCE

All of these efforts and more are helping us address and enhance product quality. However, we recognize that customer satisfaction is a function of both quality products and customer interactions to create a distinctive customer experience. This requires developing a 360-degree view of our customers so that we have a system in place that enables us to recognize, understand and serve them best.

Today this is a challenge because there are many different types and phases of customer interaction within GM, ranging, for example, from monthly billing for OnStar safety, security and 4G LTE data services to warranty repairs at dealerships. Our goal is to consolidate every system that touches a customer to offer a more personal and seamless experience. To reflect that, GM recently merged all teams with customer experience interaction points — OnStar and its call centers, social media operations and connected customer experience field agents — to form a new Global Connected Customer Experience organization. These groups are now working as one team with a united goal of a seamless 360-degree customer experience. Some of the investments we have made to date include:

- **In North America**, a new Customer Engagement Center in Warren, Michigan, with approximately 300 advisor positions and 35 team leaders. The center is located in the heart of our Product Development programs so that we can create opportunities for engineers and designers to hear directly from customers. Also, we have opened a dedicated infotainment call center in Austin, Texas, staffed with advisors specially trained in infotainment and mobile devices.
- **In South America**, GM Argentina has launched an internal Customer Focus Campaign, the center of which is a customer experience website where employees can monitor activities such as workshops at dealerships and call centers, as well as different channels to listen to the “voice of the customer.”
- **In Australia**, our Holden brand has introduced a live chat service to connect with customers in a direct and immediate manner. The Holden customer care team works on cases with consumers and dealers, manages and monitors online and social media activity, and responds to live chat requests.

Ongoing measurement and customer feedback are critical to our efforts. This is why we have created a new global survey that is sent to customers within the first 60 days of ownership. Already covering 79 percent of our global volume, the survey queries customers around the world about their likes and dislikes regarding their new vehicle and experience with GM. Their responses help to prioritize our work and ultimately to build a closed-loop process around customer interactions.

Our Executive Leadership Team (ELT) is taking customers' desires to talk with us even further. Throughout the year, several customers who have completed the survey receive a phone call from an ELT member, including our CEO, Mary Barra, to personally thank them for their feedback and hear their thoughts firsthand.

These regular phone calls not only provide a way for our leaders to connect with customers, but also can result in up to a 20 percent improvement in our Net Promoter Score, which is an important key performance indicator for measuring how likely a customer is to recommend our products.

In addition to our internal metrics, we also monitor third-party measures of customer satisfaction and quality to gauge our progress. Highlights for the 2014 model year included:

- Eight segment award recipients — double the previous year and more than any other automaker — in the J.D. Power 2014 Vehicle Dependability Study. The 2014 study tracked 2011 model year vehicles in the third year of ownership.
- Eleven models — the most of any automaker — recognized in the J.D. Power Initial Quality Study.
- All four of our U.S. brands were ranked in the top five for the J.D. Power 2014 U.S. Customer Service Index.
- Recognition for Cadillac as a 2014 Customer Champion by J.D. Power, one of 50 companies selected from 600 U.S. brands across multiple industries.
- GM Korea garnered the top score among domestic automakers for the third consecutive year in the Customer Service Index (CSI) and Quality Stress Index (QSI) in Korea. In the survey of more than 42,000 respondents, GM Korea ranked first in reception/accessibility, overall satisfaction and service reputation in five categories, including service center environment and procedures.

In China, Shanghai GM uses J.D. Power surveys as a tool to identify areas of improvement for products and services.



Our new call center operation in Warren, Michigan, is a core part of executing our customer satisfaction strategy.

## CUSTOMER PRIVACY & CYBERSECURITY

As we head into an era of unprecedented vehicle connectivity, customer privacy and cybersecurity are increasingly important issues for GM and likely to grow in importance to our stakeholders. We are mindful that there is always some level of risk associated with connectivity, but we believe those risks are outweighed by benefits such as increased safety and helping customers maintain optimal vehicle performance, as well as improved efficiency and convenience.

GM takes matters that affect our customers' safety and security very seriously. We are taking a layered approach to in-vehicle cybersecurity and are designing many vehicle systems so that they can be updated with enhanced security measures as potential threats evolve. Leading this development is our recently created

integrated organization, Vehicle and Vehicle Services Cybersecurity. This team consists of internal experts who work with outside specialists to actively minimize risks of unauthorized access to vehicles and customer data. This team also leads GM's participation in industrywide efforts to develop and implement defensive measures and strategies to reduce cybersecurity risks.

GM puts the customer at the center of everything we do and is proud to be one of the first to commit to the Consumer Privacy Protection Principles set forth by the Alliance of Automobile Manufacturers. We consider the privacy of our customers' data to be of paramount importance and have policies and procedures in place to support this commitment. We strive to ensure that customers are fully informed about how we collect, use and protect their data.



## GM Green Dealer Recognition Program

GM dealerships are the "face of GM" to customers around the world. To encourage and support environmental stewardship efforts by local dealerships, we developed a GM Green Dealer Recognition Program in 2014 that enables eligible Chevrolet, Cadillac, Buick and GMC dealerships in the U.S. to promote their environmentally sustainable business practices. GM created this program to recognize dealers who have made strides in the areas of energy reduction, water conservation, renewable energy usage, recycling and community outreach. This voluntary program is designed to share environmentally efficient and sustainable practices that have been implemented at our GM dealerships and to recognize them for their initiative in the application of green achievements.

Dealers participate directly through a program website where they can complete a self-assessment, which is verified through our Green Dealer Support staff. Dealers earn points to receive recognition by engaging in green initiatives aligned with those in our manufacturing operations, including: waste reduction, energy efficiency, recycling, community outreach and water and habitat preservation. Ongoing, year-over-year recognition can be achieved through continued participation and achievement in the implementation of green initiatives.

According to participating dealers, their environmental upgrades are driven by a desire to meet expectations of environmentally conscious customers, reduce overhead costs by increasing operational efficiency, motivate employees who take pride in working for a dealer who practices sustainability and better serve their surrounding communities.



## VEHICLE SAFETY

Setting a new standard for customer safety

### PROGRESS:

- For the 2014 model year in five of our largest markets, 63 models received the highest possible overall vehicle score for their respective market's new car assessment program (NCAP).
- Restructured the decision-making process for safety recalls and implemented the new Safety and Field Investigations process globally.
- Launched Speak-Up-for-Safety program globally to empower GM employees and dealership employees to elevate vehicle safety concerns.
- Developed Global Product Integrity (GPI) organization to strengthen vehicle safety, compliance systems and integration.
- Developing new technologies and features to improve vehicle safety.
- Developed a Web-based Global Product Safety 101 training, required annually for all GM salaried employees and contract personnel.

### PRIORITIES:

- Maintaining our focus on vehicle safety and using innovative techniques to communicate with customers.
- Designing safety into vehicles early in the development process to broadly provide our customers with the latest crash avoidance and crashworthiness technologies.
- Further developing and offering driver assist and automated technologies that will ultimately lead to safer driving.

### CHALLENGES:

- Increasing repair rates for safety recalls.
- Implementing new safety technologies in increasingly complex regulatory environments.
- Obtaining better traffic safety data around the globe.

Our customers are our compass and are at the center of everything we do. In 2014, our customers were our top priority as we focused on achieving a best-in-class recall repair rate through customer-friendly processes.



GM CEO Mary Barra takes customer calls during a visit to the Customer Engagement Center in Warren, Michigan.

We are committed to setting a new industry standard for customer safety, quality and excellence. As part of this commitment, we established and named a newly appointed Vice President of Global Vehicle Safety to elevate and integrate GM safety processes. We hired a former U.S. Attorney to conduct an internal investigation of the ignition switch recall and to provide recommendations to improve our recall processes. The investigation report made a series of recommendations in eight major areas. We intend to act or have acted on each of the recommendations. We added new safety investigators and related specialists, allowing us to bolster capacity and capability in identifying emerging issues and conducting product investigations. The decision-making process for safety recalls was also restructured to allow for faster results.

In 2014, we also announced the creation of a compensation program (the Program) for accident victims who died or suffered physical injury or their families as a result of the Ignition Switch Recall. It is important to our company that we reach everyone through this Program who has been impacted. The Program is being administered by an independent program administrator. The independent administrator has established a protocol that defines the eligibility requirements to participate in the Program and also established the submission deadline of Jan. 31, 2015, which was an extension of one month. There is no cap on the amount of payments that can be made to claimants under the Program.

While much work remains, some of GM's recent accomplishments in vehicle safety include:

- Expanding availability of our patented Safety Alert Seat, which generates vibrating pulse patterns on the left and/or right side of the lower seat bolster to alert the driver of the direction of potential dangers, to more models. The feature was first launched on the 2013 Cadillac XTS.
- Announcing that GM will be the first manufacturer to provide the Front Center Air Bag on all new 2015 full-size utility vehicles, just as we were the first manufacturer to make the technology available on all full-size crossover vehicles in 2013.
- Launching the industry-first Belt Assurance System, which keeps drivers from shifting from "park" if not buckled up, on a limited group of new fleet vehicles.
- Providing a patent-pending child restraint seat cushion extension feature to help aid proper child restraint installation in the rear seat of extended cabs on the 2015 Chevrolet Colorado and GMC Canyon — a segment-safety first.
- Offering advanced "intelligent and connected" vehicle technologies on certain Cadillac 2017 model year vehicles.

## APPROACH

As GM seeks to set a new standard for vehicle customer safety, we are building on a foundational approach that continues to serve our customers well. As part of our global vehicle development process, our designers and engineers take a comprehensive and continuous approach by considering all three phases of a vehicle crash when designing and engineering our vehicles.



Technical specifications for GM vehicles take into account not only compliance requirements for applicable laws and regulations, but also regional consumer metric programs such as the National Highway Traffic Safety Administration's (NHTSA) New Car Assessment Program (NCAP), and crash performance evaluations by the automotive insurance industry. In addition, our vehicle safety specifications meet an internal set of requirements that often go above and beyond regulatory compliance. GM's approach to vehicle safety includes offering customers a variety of strategic enabling technologies, such as OnStar, automatic braking and rear vision cameras.

For the 2014 model year, in five of our largest markets, 63 models received the highest possible overall vehicle score for safety for their respective market's new car rating program. In the U.S., government 5-Star Safety Ratings are part of the National Highway Traffic Safety Administration's (NHTSA) New Car Assessment Program ([www.SaferCar.gov](http://www.SaferCar.gov)).

Market	Top Ratings for Model Year 2014
United States	20
China	9
Australasia	11
Korea	9
Europe	14

The Insurance Institute for Highway Safety (IIHS) is an independent, nonprofit scientific and educational organization dedicated to vehicle safety. For the 2014 model year, the Chevy Equinox and GMC Terrain, when equipped with available Forward Collision Alert, were two of only three midsize SUVs to achieve the IIHS highest safety rating — 2014 Top Safety Pick+. The 2014 Chevrolet Malibu and Volt, when equipped with available Forward Collision Alert, also earned this prestigious designation in the midsize sedan category. In addition, four GM models — the 2014 Buick Regal, Cadillac CTS, Cadillac XTS and Chevrolet Impala, when equipped with the available Front Automatic Braking system — received IIHS's highest rating of "Superior" in front crash prevention system testing.



A camera-based front alarm combines audible warnings with a visual display on the dashboard to warn a driver who is following too closely or about to change lanes without signaling.

## TECHNOLOGY

In recent years, advanced technologies have contributed to innovations in vehicle safety. In 2014, we made several major industry announcements on new technologies that demonstrate our commitment to lead the industry in vehicle safety.

Cadillac will begin offering advanced "intelligent and connected" vehicle technologies on certain 2017 model year vehicles. In about two years, all-new 2017 Cadillac vehicles will offer customers an advanced driver assist technology currently referred to as Super Cruise, and in the same time frame, the 2017 Cadillac CTS will be enabled with vehicle-to-vehicle (V2V) communication technology.

Super Cruise, a new driver assist feature, provides customers with a driving experience that includes hands-off automatic lane following, as well as braking and speed control in certain highway driving conditions. The system is designed to increase driver convenience and reduce stress for an attentive driver on freeways, both in bumper-to-bumper traffic and on long road trips.

V2V communication technology could mitigate many traffic collisions and improve traffic congestion by sending and receiving basic safety information such as location, speed and direction of travel between vehicles that are approaching each other. It will warn drivers and can supplement active safety features, such as forward collision alert, already available on many production cars.

GM also is joining forces with the Michigan Department of Transportation, the University of Michigan's Mobility Transformation Center and other automakers to create vehicle-to-infrastructure (V2I)-enabled corridors on 120 miles of metro Detroit roadways, including stretches of Interstate 96 and the Reuther and Ford freeways. When completed, it will be the largest deployment of V2I technology in the United States.

## PUBLIC POLICY

Once broadly deployed, V2V has great potential to save lives and prevent injuries by reducing the number of crashes. Government plays an integral role in providing for interoperability, standardization and security. We will continue to work together with governments and industry on V2V initiatives, and we support the NHTSA's rulemaking effort to establish standards and a nationwide deployment plan. We're committed to ongoing industry consortia development work to define solutions in areas such as interoperability and needed security models.

Our commitment to roadway safety extends beyond vehicle design to advocacy for public policies that are consistent with safe vehicle operation and behaviors. To this end, GM supports certain legislative efforts focused on safety belt use and enforcement, including safety belt checkpoints; primary safety belt laws; and teen safe driving initiatives, including graduated licensing of young (or new) drivers, with limitations on cell phone use, number of passengers and nighttime driving.

In Australia, for example, our Holden brand welcomed recent federal legislation that approved the use and sale of ISOFIX child safety seats for Australia. ISOFIX is a simplified method of securing specialized child seats into vehicles more quickly and easily than using the alternative child seats that are secured with the vehicle safety belt. In anticipation of the legislation, all Holden models available for sale today, with the exception of the Chevrolet Volt, are ISOFIX compliant.



*The GMC Canyon features a patent-pending child restraint seat cushion extension feature to help aid proper child restraint installation in the rear seat of the extended cab.*

Drunk driving continues to be a societal and industry challenge. GM strongly advocates for the enforcement of drunk driving laws and the use of alcohol ignition interlocks for first-time offenders. We are also working on the development of a Driver Alcohol Detection System for Safety (DADSS) in the U.S., an integrated system designed to automatically detect the alcohol level of the driver by utilizing breath-based or transdermal (touch) sensors that prevent the vehicle from starting if the alcohol level is above the legal threshold in conjunction with many other OEMs, through the Automotive Coalition for Traffic Safety (ACTS) with NHTSA under a cooperative development agreement to support critical research and advanced development of DADSS.

GM supports bans on hand-held cell phone use and texting while driving, but also understands our customers' desire for connectivity and that, in the absence of safer alternatives, customers will use hand-held devices while driving. For more than 10 years, GM has designed its vehicles in accordance with the Automotive Alliance Guidelines for the U.S. that help integrate hand-held devices into vehicle telematics systems, allowing drivers to use certain features while minimizing distraction. An example is the hands-free, voice-activated system for making a call that enables drivers to keep their hands on the wheel and eyes on the road.

## PARTNERSHIPS

Several long-standing partnerships, all of which receive annual financial support through the GM Foundation, are another means by which we support vehicle and roadway safety. Our 18-year partnership with Safe Kids Worldwide is a good example. Safe Kids initiatives have educated millions of parents, caregivers and young passengers regarding automobile safety, with particular focus on child seat use, proper child seat installation, heatstroke prevention and teen predriver safety education. GM North America has partnered with the National Safety Council to support programs on teen driver safety that involve parents. We also support Mothers Against Drunk Driving (MADD) teen driving initiatives and MADD victim services in the U.S.



## FUEL EFFICIENCY & CO2 EMISSIONS

Delivering value for our customers and the environment

### PROGRESS:

- Increased the number of U.S. vehicles with some form of electrification from 153,034 to 180,834 vehicles.
- Increased the number of U.S. models that can achieve EPA-estimated 40 mpg highway or better from five to six models.
- Reduced average CO2 tailpipe emissions of U.S. fleet by 6.3 percent against a 2011 baseline; of Opel/Vauxhall fleet by 3.3 percent against a 2012 baseline; and, China fleet by 0.5 percent against a 2013 baseline.

### PRIORITIES:

- Offer a variety of fuel economy choices in each segment to allow consumers to make the most cost-effective choice based on their needed utility and driving habits.
- Gather information and support the U.S. EPA and NHTSA with real-world data to support both the 2025 light-duty fuel economy/greenhouse gas goals in their midterm review, as well as the Heavy-Duty Phase 2 fuel economy/greenhouse gas rulemaking.

### CHALLENGES:

- Increasing fleet fuel efficiency in the face of changing market dynamics and customer acceptance and willingness to pay for alternative propulsion technologies.
- Maintaining the needed utility of our product offerings, such as heavy-duty pick-ups and vans, while also improving fuel efficiency.
- Setting global product commitments.

Fuel-efficient vehicles provide value to our customers by decreasing their total cost of ownership. In the process, we have the opportunity to positively impact climate change by reducing the CO2 emissions of our global vehicle fleet, which account for approximately 95 percent of our carbon footprint. Though we continue to develop and offer a leading portfolio of propulsion technologies and powertrains, this is a complex effort that is heavily influenced by changing customer preferences, market dynamics and often conflicting government regulation around the world.

The pace and complexity of fuel economy and CO2 emissions regulation are increasing around the world. In most cases, these regulations are driving the development of technologies, such as electrification, that outpace consumer demands. Reconciling this gap is one of our greatest business challenges, and volatile fuel prices in recent months have served as a good reminder of the issue.

Falling oil prices during 2014 resulted in a considerable decrease in the average price of gas around the world.<sup>1</sup> We have long seen a pattern in which fuel economy as a purchasing consideration rises and falls with the price of gasoline price. When gasoline

prices started to fall in July 2014, large SUV sales in the U.S. increased more than 13 percent from July to December 2014 when compared with the same period in 2013. Total vehicle sales increased less than 8 percent during the same time frame. Trucks, including crossovers, gained nearly 2 percent of market share at the expense of cars.

The challenge is compounded even more so in markets outside the U.S., where mandates and regulations can be as stringent as those in the U.S. or Europe, but average incomes are significantly lower. In some markets the demand for the most efficient fuel technologies does not exist until regulatory interventions pave the

<sup>1</sup><http://www.globalpetrolprices.com/benchmark/>



GM remains the only automaker to date to sign the “Climate Declaration,” organized by the sustainable business advocacy group Ceres and its Business for Innovative Climate and Energy Policy (BICEP) coalition. The declaration calls for policymakers to address climate change by promoting clean energy, boosting efficiency and limiting carbon emissions. With the publication of this report, we renew our own call for other automakers and businesses to take a firm and public stance on climate change.

way for changing consumer purchasing behavior. The challenge faced in such markets is to provide viable fuel-efficient products that meet regulatory frameworks within the prevailing market conditions. While we are committed to transforming transportation through the ongoing development of advanced technologies, our most effective means to navigate these dynamics today is through continuous innovation of the internal combustion engine (ICE) — a strategy that plays across all economic conditions, vehicle categories and markets around the world.

As part of our ICE strategy, we are also focused on designing more efficient vehicles through reductions in vehicle mass and aggressive investment in advanced materials, such as high-strength steel, carbon fiber and aluminum. With efficient designs and the right combination of materials, many GM vehicles have the potential to be up to 15 percent lighter than comparable vehicles on the road today. There are, however, price recovery and customer acceptance challenges with the cost of premium materials for fuel efficiency gains. While a mass reduction in the order of 10 percent translates into a fuel-efficiency gain of 5 percent, these benefits have marketing and commercial challenges that must be factored into our strategy.

A suite of technologies that includes downsizing, turbocharging, “stop-start” technology, direct injection, variable valve timing and cylinder deactivation is improving the thermodynamic efficiency of gasoline engines. We also are rolling out a new technologically advanced engine family that streamlines our global powertrain portfolio with a modular architecture. This will enable a broad deployment across a variety of global markets and price points. Designed to achieve segment-leading efficiency, the new engines will power many of our highest-volume small cars and compact crossovers, including the next-generation Chevrolet Cruze, specifically tailored for China, which launched in 2014 as a 2015 model. We expect to build more than 2.5 million of these engines around the world, introducing them across five GM brands and 27 models by the 2017 model year.

These types of initiatives are leading to a GM engine portfolio today that is considerably smaller, cleaner and more efficient than in the past, all without sacrificing performance. This is a key factor in winning certain customer segments. The end result by 2017 will be a GM fleet that sets a new performance level in fuel economy and carbon emissions around the globe.

## THE ROLE OF ADVANCED TECHNOLOGIES

Our investments to push the limits of the ICE underscore the reality that gasoline will be the fuel of choice for the vast majority of the world for the foreseeable future. Accordingly, the best way to realize a significant decrease in CO<sub>2</sub> emissions in the short term is to put a meaningful number of fuel-efficient vehicles with traditional propulsion systems on the road.

At the same time, we remain fully committed to the continued development of alternative fuel systems and advanced technologies, such as electrification. This commitment is underscored by our investment not only in an expanding portfolio of electric vehicles, but also by our internal development and manufacturing capability for electric batteries, motors and power controls — the same capabilities that we have for traditional propulsion technologies.

These capabilities provide us with a range of technologies that can operate on alternative fuels to offer our customers and adapt to different markets around the world where fueling infrastructure varies. In addition, we have successfully leveraged investments in advanced technologies into more mainstream fuel-saving solutions. Our eAssist and Stop-Start technologies, for example, are forms of “light electrification” that have been derived from more advanced and costlier electrification technology.



*The Bolt EV concept enables drivers to select operating modes designed around preferred driving styles, such as daily commuting and weekend cruising.*

## PRODUCT COMMITMENTS

Since 2013, we have been working toward a series of product commitments that demonstrate our meaningful commitment to address climate change through improved fuel economy and reduced emissions.

GM Product Commitments and Progress				
Goal	2011	2012	2013	2014
500,000 vehicles on the road in the U.S. with some form of electrification by 2017*	39,843	95,578	153,034	180,834
Double the number of U.S. models that can achieve EPA-estimated 40 mpg highway or better by 2017	2 Models	4 Models	5 Models (Cruze, Cruze Eco, Sonic, Sonic5, Volt)	6 Models (Cruze, Cruze Eco, Sonic, Sonic5, Volt, Spark BEV)
Reduce average CO2 tailpipe emissions of U.S. fleet by 15 percent by 2017	Baseline	2.3%	5.2%	6.3%
Reduce average carbon tailpipe emissions of Opel/Vauxhall fleet by 27 percent by 2021	n/a	Baseline	2.3%	3.3%
Reduce CO2 emissions of China fleet by 28 percent by 2020	n/a	n/a	Baseline	0.5**

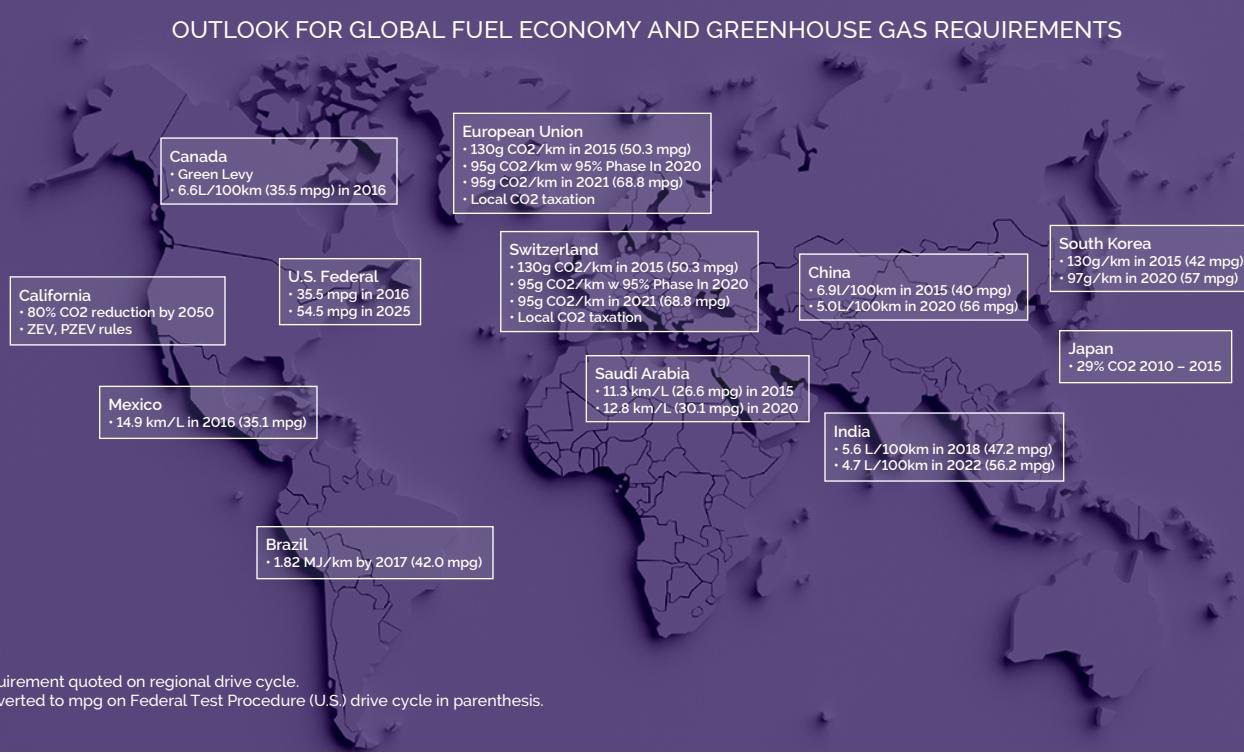
\*Includes all eAssist, two-mode hybrid, extended-range electric vehicle and electric vehicle models since model year 2010.

\*\*The 2014 number for China is based on an internal preliminary assessment of GM data; the confirmed final number will be available later in 2015.

For our commitment to electrification, our forecasted outlook currently projects us, along with the broader automotive industry, falling short of expectations for 2017. GM is committed to electrification and our award-winning eAssist, extended-range electric vehicle and battery electric vehicle offerings, but consumer demand for these vehicles has not kept up with our initial projections. Several factors have contributed to the lesser rate of sales for electrified products, including lower fuel prices and the surge in model offerings from all manufacturers. However, we continue to aspire to our stated goal. Our ongoing progress toward this commitment, along with new products such as the next-generation Chevrolet Volt and Bolt BEV concept; continued investment in one of the largest battery labs in the world and R&D; and leading manufacturing capabilities for electric powertrains, batteries and

vehicles, reaffirm our commitment to leadership in electrification. We will continue to work with our stakeholders to help further consumer acceptance and appropriate regulatory treatment for electrified product offerings.

We, along with many of our stakeholders, would like to see product goals that are global and longer-term in nature. This requires, however, consensus among countries on the policies and standards that apply to the auto industry. Realistically, regional or global consensus standards may take years to develop, if ever. As a result, we advocate mutual recognition agreements, a practice by which two or more markets agree to recognize each other's standards and eliminate costly and nonbeneficial redundancies.



## REGULATORY REVIEW

Currently, we estimate that nearly 90 percent of the vehicles we sell must comply with an aggressive level of fuel-economy and carbon-emissions regulation. A common trend that we are seeing around the world is for countries to adopt standards similar to either those of the U.S., which are based on a footprint metric or size of the vehicle, or those of the European Union, which are weight-based. In many cases, fuel-saving solutions under one system do not necessarily translate to another, thus adding to our challenges.

As of 2014, carbon-pricing schemes are expected to be operating in at least 33 countries and 18 subnational jurisdictions, covering around 20 percent of global emissions. Though CO2 pricing schemes vary widely around the world, all are intended to encourage consumers to purchase vehicles that emit less carbon or, at a minimum, to help raise public awareness about the importance of CO2 reduction.

Within GM, we have embedded institutionalized governance processes that predict, plan, measure and monitor our fleet's fuel economy and emissions performance on a dynamic and country-by-country basis. This is a complex task in which we invest significant resources. To calculate the fuel economy for a single vehicle model in one market against multiple variables is complicated. Multiply that by dozens of models sold in nine markets with finalized regulation and two more with proposed regulation. The result is a fleet calculation with an enormously complex algorithm. These calculations and the subsequent

plans around them, however, are now an intrinsic part of our business that impacts nearly every operational function from product development through delivery on a daily basis.

The current regulatory environment related to mobile CO2 emissions and fuel economy varies greatly throughout key business regions in the world. Following is a more detailed discussion about each of our major markets.

## BRAZIL

In Brazil, the government has finalized aggressive fuel consumption reduction requirements as part of an overall automotive program. The program requires in-country engineering, manufacturing and assembly. The fuel consumption piece of the program requires at least a 12 percent improvement for the Brazilian industry in consumption reductions by the 2016 calendar year. GM is working to strictly comply with all government legal requirements.

Discussions with the Brazilian government on the next phase of requirements, INOVAR2, will begin near the end of 2015. INOVAR establishes a new approach toward energy efficiency that demands from Original Equipment Manufacturers (OEMs) the same level of technological development applied in developed markets, where limits for gCO2/km emissions are regulated. INOVAR2 is expected to begin in 2020 and continue to require in-country engineering, manufacturing and assembly, as well as more aggressive fuel-consumption reduction targets.

## CANADA

In September 2014, the government of Canada finalized the 2017–2025 Light-Duty Green House Gas (GHG) Regulations. In February 2013, the government's final 2014–2018 Heavy-Duty Vehicle GHG Regulations were published. Both of these regulations harmonize with those promulgated by the U.S. EPA, in the same manner as the 2009–2016 Light-Duty GHG Regulation. With this same North American outlook, also in September 2014, the Canadian government published its proposed regulations to align with proposed U.S. Tier III standards for stricter limits on air-pollutant emissions from new cars and light trucks, and reductions to the amount of sulfur in gasoline for 2017 and beyond. The final Tier 3 regulations are targeted for publication in June 2015. Application of these regulations will ensure that Canada gains GHG performance benefits equivalent to those that the U.S. will experience from the progressive introduction of higher technology powertrains with even greater fuel efficiency and enhanced emissions controls.

## CHINA

China has established new Phase III fuel-economy standards, supplementing the current Phase II pass-fail system with a corporate fleet average scheme based on vehicle curb weight for the 2012 through 2015 model years. Implementation will be phased in, with full compliance required by 2015 to a 6.9L/100km standard. China has continued its retail subsidies for consumers for fuel-efficient vehicles, extended-range and plug-in, battery electric and fuel-cell vehicles. The Chinese government has finalized a more aggressive Phase IV fuel economy standard and Phase II+ pass-fail system that are expected to be phased in during the 2016 through 2020 model years, with an extremely aggressive target of 5.0L/100km by 2020. The GM team is in discussions with the Chinese government on the administrative rule for CAFE management, which will define aspects such as the penalty scheme and credit trading.

## EUROPE

Legislation targets a fleet average requirement that is being phased in from 2012, with full compliance required by calendar year 2015. Automobile manufacturers can earn super credits for the sales volume of vehicles having a specific CO<sub>2</sub> value of less than 50 grams CO<sub>2</sub> per kilometer. This is intended to encourage the early introduction of ultralow-CO<sub>2</sub> vehicles such as the Chevrolet Volt and Opel/Vauxhall Ampera by providing an additional incentive to reduce the CO<sub>2</sub> fleet average.

Automobile manufacturers may gain credit of up to seven grams for innovative technologies (a.k.a. eco-innovations) that improve real-world fuel economy, such as solar panels on hybrid vehicles and more efficient air compressors. The target of 95 grams CO<sub>2</sub> per kilometer will begin to phase in during 2020, with a 100 percent required phase-in by model year 2021.

## INDIA

Mandatory fuel-efficiency regulations for new passenger cars manufactured or imported for sale in India (with gross weight not exceeding 3,500 kg and not having more than nine seats) were published on Jan. 30, 2014. The first set of fuel-efficiency regulations will be enforced from the fiscal year beginning April 1, 2016 onwards (effectively model year 2017), with fuel-efficiency targets that would be applicable based on the notified formula and vary with the weight of the car. There are two different time periods provided, each with its own formula, thereby imposing different fuel-efficiency standards. The first time period will commence from the fiscal year 2016-17 until 2020-21, and the second time period commences from fiscal year 2021-22 onwards. The notification of fuel-efficiency norms will result in a fuel-economy labeling system becoming mandatory for all passenger cars covered by the said notification. Presently, all Indian car manufacturers are following a uniform Society of Indian Automobile Manufacturers (SIAM) fuel-efficiency labeling system, voluntarily implemented by each manufacturer (1 star = poor; 5 stars = best).

India implemented Euro 4-equivalent emissions norms from the year 2010 onwards in 13 major cities, as 50 ppm sulfur gasoline and diesel fuels (BS IV fuels) were made available in those 13 cities only. Oil companies have indicated that they have now extended BS IV fuels to 17 more cities. Furthermore, they extended BS IV fuels to 15 additional cities by March 2014 and another 18 cities by March 2015. Discussions with the government, industry and other affected stakeholders regarding future criteria and fuel requirements are ongoing.

## MEXICO

The Mexican government currently has a fuel economy regulation, NOM 163, affecting 2014 through 2016 model years. Compliance for auto manufacturers is compulsory over this period of time, and the regulation also provides that credits for early compliance can be obtained for the 2012 and 2013 model years. We are working with the Mexican government on post-2016 standards that recognize the unique market and geographical conditions in Mexico. Discussions with government decision-makers are to begin in mid-2015.

## SAUDI ARABIA

In late 2014, the Kingdom of Saudi Arabia (KSA) finalized fuel economy requirements for all new and used vehicles entering KSA beginning on Jan. 1, 2016. The KSA government modeled its requirements after the U.S. NHTSA CAFE requirements, but also accounted for the unique differences in market conditions — gasoline is priced at approximately U.S. \$0.70 per gallon — and in conditions in which temperatures are significantly higher. KSA plans to look toward post-model year 2020 requirements in a few years, while closely watching the developments in the U.S. regarding the light-duty midterm evaluation and the progress of their finalized fuel economy requirements.

## SOUTH KOREA

In South Korea, the government determined to delay the implementation of CO2-based auto Bonus-Malus scheme to 2021; instead, they set the stringent 2020 fuel economy/CO2 target of 97 g/km on Dec. 30, 2014. The target will begin being phased in during 2016, with full compliance by 2020. Manufacturers will have the option to certify based on either fuel consumption or CO2 emissions. Each manufacturer has been given a corporate target to meet based on its overall industry fleet fuel economy/CO2 average. Although the government provided flexibilities such as MAC (Mobile Air Conditioning) credit, BEV and mini car credit, credit carry back-forward, etc., the industry still claims it is impossible to reach the target by 2020. The industry anticipates requesting a midterm review in 2017 to assess the feasibility of a target similar to the U.S. target.

## UNITED STATES

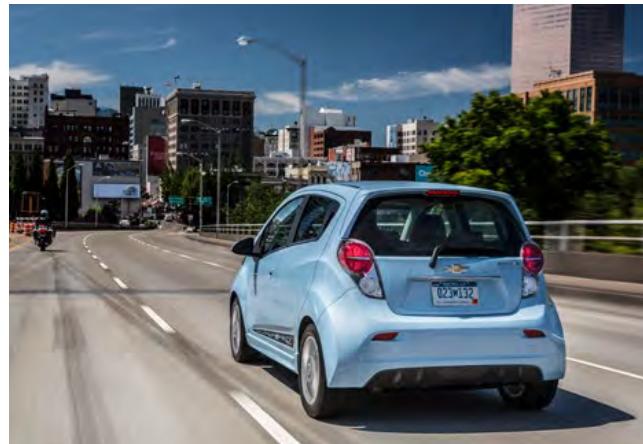
Corporate Average Fuel Economy (CAFE) reporting is required for three separate fleets: domestically produced cars, imported cars and light-duty trucks. Beginning with the 2011 model year, both car and light-duty truck standards were established using targets for various vehicle sizes and vehicle model sales volumes. In 2013 our domestic car standard was estimated to be 33.0 mpg, our import car standard was estimated to be 36.5 mpg and our light-duty truck standard was estimated to be 24.3 mpg. Our current product plan is expected to be compliant with the federal CAFE program.

In August 2012, the U.S. EPA and NHTSA finalized a coordinated national program consisting of new requirements for the 2017 through 2025 model year light-duty vehicles that will reduce greenhouse gas emissions and improve fuel economy. This regulation represents a continuation of the national program that was established for 2012 through 2016 model year light-duty vehicles. This program includes EPA and NHTSA standards that will require an industrywide target standard of 250 grams of carbon-related exhaust emissions per mile and 34.1 mpg by 2016. Our current product plan projects compliance with both federal programs through 2016.

## LEADING FUEL EFFICIENT MODELS



The all-new 2016 Chevrolet Volt extended range EV offers 50 miles of EV range, greater efficiency and stronger acceleration.



The 2014 Chevy Spark EV's EPA estimated 82 miles of range and combined city/highway 119 MPGe, make it the most efficient retail EV.



The Buick Regal eAssist light electrification system allows the engine to shut down fuel delivery while decelerating or at a stop, to save additional fuel.



One of the first new ECOTEC® small-displacement engines gives the Opel ADAM an estimated 20 percent improvement in fuel efficiency.

## LEADING FUEL EFFICIENT MODELS



The 2014 Chevrolet Cruze Clean Turbo Diesel offers the best highway fuel economy of any non-hybrid passenger car in the U.S. with the ability to go 717 miles on one tank of diesel fuel.



Fuel-efficient multi-speed transmissions, aerodynamic design, Active Fuel Management and lightweight construction help make the 2015 Chevrolet Corvette surprisingly efficient.



The 2015 GMC Canyon redefines the small truck category with segment-leading features, such as best available horsepower and fuel economy, that make it more capable and versatile than any other competitive midsize pickup on the market.



## GM PEOPLE

Creating a Workplace of Choice based on our Purpose and Values

### PROGRESS:

- Conducted second global Workplace of Choice (WOC) survey to measure employee engagement and better understand concerns.
- Recorded an increase in positive employee perception across every region, country and global function in the 2014 WOC survey compared to 2012 survey results. Also noted increased awareness of senior leadership efforts to help fix employee engagement gaps for employees with less than three years' experience with GM, identify solutions to answer employees' concerns around career development, and focus as leaders on their own behaviors around accountability, trust and candor.
- Focused on grassroots changes that matter to employees, such as global expansion of select Employee Resource Groups (ERGs), in recognition that employee engagement extends beyond leaders to employees themselves.

### PRIORITIES:

- Strengthen culture to be more accountable, act with greater urgency and embrace a winning attitude.
- Further develop career development platform to increase movement within the talent pipeline.
- Grow regional efforts to increase engagement at the local level throughout the world.
- In formulating staffing plans, include the recruiting and retention of those in the "millennial" generation — those born in the early 1980s or later — in order to build skill development and succession planning.

### CHALLENGES:

- Educating every employee to live GM core values
- Building a customer-centric bias with respect to all internal decisions and actions by employees
- Increasing positive employee perception of career opportunities within GM
- Building a more unified global culture among more than 216,000 employees on six continents

In order to stay competitive and relevant as an automotive company, our global workforce must be ready to embrace rapid change as part of our efforts to put the customer at the center of everything we do; adopting an "in it to win it" attitude with a corresponding sense of urgency; and increasing the level of accountability at every level of the organization. As these three behavioral changes occur, we will be creating a workplace of choice as well — one that attracts and retains the industry's best talent by creating ongoing opportunity for individual growth and development.



## EMPLOYEE ENGAGEMENT

Our Purpose and Values are critical tools in driving behavioral change in order to align our global organization around a set of common corporate beliefs. During 2014, our Leadership Team focused on setting a clear vision, strategy and direction for our global workforce. Their intent was to evolve our Purpose and Values to be more specific, more enduring, more externally focused and broader in scope.

While inspirational, our purpose and values are not aspirational. As our CEO Mary Barra explained when introducing the Purpose and Values in a global town hall meeting, employees should not think of these as something that can be attained, but as a collective goal that can be achieved together. To many employees, our Purpose and Values explain GM's reason for being — "the why behind the what."

### Who We Are and Why We Are Here:

- We earn customers for life.
- We build brands that inspire passion and loyalty.
- We translate breakthrough technologies into vehicles people love.
- We serve and improve the communities in which we live and work.
- We are building the most valued automotive company.

### Our Core Values

#### **Customers**

We put the customer at the center of everything we do. We listen intently to our customers' needs. Each interaction matters. Safety and quality are foundational commitments, never compromised.

#### **Relationships**

Our success depends on our relationships inside and outside the company. We encourage diverse thinking and collaboration from the world to create great customer experiences.

#### **Excellence**

We act with integrity. We are driven by ingenuity and innovation. We have the courage to do and say what's difficult. Each of us takes accountability for results and has the tenacity to win.

The rollout of the new Purpose and Values came on the heels of many focused discussions around leadership behaviors and how to build a Culture to Win. Development was further informed by the results of the second global Workplace of Choice survey, delivered in early July. The survey showed steady progress in employee engagement, but the results remained below those enjoyed by Best Employers.

We conduct this survey to measure and manage how well employees are engaged with GM and its success. Results are compared against best-in-class companies that conduct similar activities. They are then shared with senior leadership, as well as every manager around the world who has at least five employees who participate in the survey.

The most recent survey, conducted in April, garnered an 83 percent response rate among salaried employees in 64 countries and 13 languages. This rate compares well against Best Employers, who typically see a 70 percent response rate and is a good indication of how well invested employees are in the success of their own companies. The number of responses alone tells us that employees are speaking up and telling leaders what is working well and where opportunities still exist. Prior to the first survey in 2012, when the only feedback mechanism was via local leaders, GM employees did not have such a direct and confidential way to provide honest feedback to the company on a global basis. Accordingly, the survey has become an internal symbol of positive change from our former way of working.

Beyond giving employees an avenue to voice feedback, we also are working to provide an environment and the resources necessary for employees to take action on their own when they recognize an issue. In the process, these change agents are providing a 'bottom-up' grassroots component that complements the 'top-down' initiatives that we have underway.

GM2020 is an example of how we are finding great success with more collaborative and transparent programs based on candid exchange. This workplace initiative brings together cross-functional participants to reimagine the way we work at GM, with the challenge of changing it by the year 2020. The initiative has included both a launch event and a series of CO:LABS. The launch event allowed participants to immerse themselves in the key trends that will be prevalent by the year 2020, as well as activities that gave both an inside and outside perspective on how we work at GM.

The CO:LABs are 24-hour, fast-paced sessions that bring together groups of 30 to 70 people to solve a specific challenge. There is a fun, collaborative and competitive atmosphere at these sessions, and a winner is crowned at the end. A CO: LAB sponsored by our Global Product Planning Team, for example, challenged participants to brainstorm ideas about how to redesign a recently acquired building to accommodate key workspace requirements. The winning team is now working as the voice of the employee with the architects to make sure the design is tailored to those who will be using the space.

The Workplace of Choice survey has been elevated to the key performance metric for how GM is performing on its promise to build an engaging culture with a desire to win in the marketplace and in the hearts of customers. Already, we are seeing success in some regions around the world. GM South America, for example, focused its seven-country region on a Cultural Transformation Roadmap that started with honest discussions of leader and employee behaviors and expectations. The roadmap culminated in 2014 with a week-long 'Culture Week' in which countries held local competitions for the best ideas to help GM transform work environments into even better places to work.

Likewise in Europe, Opel/Vauxhall was thrilled with a 25 percent increase in engagement from 2012 to 2014. This increase is seen as cementing the belief that GM Europe is on a road to business recovery following a multi-year industry downturn. The European specific program DRIVE 2022 leveraged 150 local employees as change agents and ambassadors to help explain how Opel/Vauxhall brand goals aligned with the larger GM enterprise and to help look for improvement opportunities. Hundreds of employees brought their own best ideas to workshops, where leaders helped them to implement business and product-based suggestions.

### In-Country Workplace Recognition

**Top 100 Canadian Employers**  
**GM Canada**

**Top Employers United Kingdom**  
**Vauxhall Motors**

**Investors in People Gold Award**  
**Vauxhall Motors**

**Top 10 in Super Companies Ranking**  
**GM Mexico**

### CAREER DEVELOPMENT

Attracting and retaining the world's best and brightest people — both within and beyond the automotive industry — is one of our biggest priorities and essential to winning in a competitive marketplace. As indicated by our 2014 Workplace of Choice employee survey, career development remains one of the top concerns for GM employees around the world. Formal performance management and individual tools for employees to use on their own are helping us address employee engagement, retention and development.

Since its launch in 2013, a global Career Development website has provided resources to engage employees and leaders in meaningful career conversations. In the process, we are helping to build awareness among employees to proactively manage and grow their own careers with the support of their leaders. During 2014, we provided additional global career resources that included career Web chats, webinars, an e-magazine and functional career fairs. We also celebrated the annual GM Career Development month across all global regions and functions to further provide a way to connect with employees about the importance of career development.

Based on survey feedback, we know that employees desire more experiences and exposure during their GM career, including opportunities to discuss their career interests with others. To this end, our 2015 global career development strategy includes:

- Growing early-career functional rotational programs
- Providing rotational and lateral experiences to mid- and late-career employees
- Launching global mentoring resources
- Establishing an effective, functional career advisor network to encourage ongoing career conversations with peers and GM leadership

Other hallmarks of our evolving career development programs include more access to leadership. The Starting Line, for example, is a new employee orientation session held monthly during which a member of our Executive Leadership Team visits with new hires. At GM headquarters in Detroit, a Talent Acquisition Assessment Center has been improved to better facilitate employment candidates' experiences as they progress through the job application and onboarding processes.

Career development is a priority for GM around the world, and a variety of programs is implemented at the country level, geared to the unique needs of local employees. For example in China, where GM has three primary joint venture partnerships, a workshop on how to work in a joint venture has been developed. Since opening in 2012, GM Korea's Career Consulting Center has used a variety of career-planning tools and workshops to counsel more than 1,000 employees.

## HEALTH & SAFETY

The safety of our employees, contractors, suppliers and all who visit GM's global locations is paramount, and we are committed to industry leadership in the field of workplace safety. Our workplace safety record includes many past accomplishments. In 2013, for example, the National Safety Council recognized 39 GM sites for excellence in occupational safety. Despite this recognition, GM recognizes that efforts to provide safe workplaces can always be improved. For this reason, we are in the process of overhauling workplace safety at GM sites around the world.

Starting with a renewed focus that makes workplace safety the personal responsibility of every employee, we are transforming our safety culture to elevate it to a new level. Our first priority was to instill a new safety vision: *Live Values that Return People Home Safely. Every Person. Every Site. Every Day.*

The five strategies that will help transform our safety culture and achieve this vision are:

1. Develop Safety Management System to ensure compliance with regulations and conformance to GM standards.
2. Drive Risk Mitigation.
3. Leverage Personal Accountability and Safety Branding to transform Safety Culture.
4. Utilize Continuous Improvement Tools and Technology to eliminate waste and drive Business Value.
5. Develop and execute Fatality Prevention to drive and sustain ZERO fatalities.



A design development team at Opel-GTC Paris

The Key Performance Indicators that we will use to measure our success are:

1. *Fatalities* — Our target is zero. It remains a priority that every person who enters a GM facility leaves safely and unharmed.
2. *Global Calls To Action* — If a GM site experiences an injury or near miss, we strive to promptly communicate known hazards and remedial responses to help prevent the recurrence of conditions or events that can lead to death or serious injury.
3. *A Sentinel Event* — This is an injury, property damage, near-miss or unsafe act or condition that could have led to a fatality. Our goal is to prevent the recurrence of these events or risks.
4. *Sentinel Event — Proactive* — We also can learn from Sentinel Events and better predict where the next injury, property damage or near-miss event with fatality potential will occur so that we can eliminate those hazards.
5. *Total Incident Rate* — The number of recordable and non-recordable injuries and illnesses per 100 full-time employees and contractors per year. This helps to identify hazards, eliminate risks, and drive reporting for all incidents so that we can learn and assess areas for improvement.

To kick off the program globally, GM sites around the world celebrated the first Global Safety Week in September 2014 with the launch of the new safety identity, along with educational and interactive activities intended to help each employee make safety personal. From the shop floor all the way to Global Manufacturing leadership and CEO Mary Barra, our global teams demonstrated why safety is important to them.

## DIVERSITY & INCLUSION

At GM, we know that an inclusive environment creates the stage for innovation, which in turn expands our ability to better understand and serve our growing global customer segments. The pursuit of diversity in all of its dimensions helps us attract new talent, gain access to emerging markets, build relationships with more customers and maximize the potential of our most important asset — our people. As an automotive company, we drive diversity throughout our organization by focusing on five areas: our customers, employees, dealers, suppliers and communities.

In the U.S., GM has 12 Employee Resource Groups (ERGs) whose members represent our diverse workforce and, among other things, help GM understand the diverse consumer markets that buy our products. ERGs include Asian (Mideast, Chinese, Asian-Indian, Vietnamese), Native American, African-American, Hispanic, Veterans, Women, LGBT, Jumpstart (for our newest employees), and People with Disabilities. Women's councils and several GM Jumpstart chapters are active globally.

During 2014, we focused our Diversity & Inclusion efforts on several target areas.

### Women

Efforts around women's recruitment and leadership development hold high priority in helping GM sustain a strong talent pipeline. Today, our women's councils number 18 around the globe. These councils host events that promote personal and professional development, as well as the impact of women in the marketplace. GM Korea has co-hosted a Women's Conference for the last four years to help female employees improve their networking and career development opportunities. In China, GM was the co-sponsor of POWER China — Opening Doors for Women conference in Shanghai, as well as the Working Mother® Global Advancement of Women Conference in Beijing. In 2014, GM North Africa launched a Leadership Development Program for Women, which provides a six-month program to prepare high-potential female employees for future leadership roles. In countries such as India, Mexico and Thailand, we have extended their women/family-focused initiatives to the local community to include activities promoting women and safety, as well as community wheelchair drives to help local disabled residents and outreach to help coach/mentor students at local schools.

### LGBT

The lesbian, gay, bisexual and transgender (LGBT) community is one of the most diverse groups among our target areas, so our approach is wide-ranging. Our commitment to LGBT starts at the core of the company's policies and extends out to the community. GM has a strong anti-discrimination policy that protects LGBT employees. We are the only automotive company to support the Employment Non-Discrimination Act (ENDA), as well as the only automaker asked to be a member of the National Gay and Lesbian Chamber of Commerce (NGLCC). For more than a decade, we have offered same-sex domestic partner benefits, and extended same-sex spousal benefits to married LGBT couples two years ago as laws recognizing same-sex marriage began to change. LGBT outreach efforts extend to our brands and include groundbreaking LGBT-inclusive advertising, sponsorships and promotional events. Our commitment to the LGBT community is underscored by the Human Rights Campaign, which has named GM "one of the best places to work for LGBT equality" eight times since 2006.

### People with Disabilities

GM is one of six Fortune 500 companies piloting a three-year initiative, which began in 2014, to build momentum behind efforts to recruit, hire, develop and retain persons with disabilities. Our People with Disabilities ERG has been instrumental in helping onboard, support and mentor employees with disabilities, extending outreach to help caretaker families and partnering with local organizations that share the goal of improving quality of life/work opportunities for people with disabilities. Last year we launched a self-reporting tool on our employee profile systems that allows employees to voluntarily disclose the existence of a disability and how to access support for special accommodations, if required. Our support of persons with disabilities also extends to our customers: GM is one of only a few automotive OEMs that has a program to reimburse customers a portion of the cost to retrofit their qualified new GM vehicle to accommodate the needs of its customers with disabilities or those customers with caretaking responsibilities for people with disabilities.

## Veterans

With thousands of military veteran employees, GM support for the United States armed forces spans generations and continues today. General Motors offers the industry's best military purchase program. Shifting Gears is our newest initiative and a multi-year technical training partnership with the U.S. Army. The 12-week, on-base program at Fort Hood, Texas, empowers transitioning soldiers with the skills required to secure careers as service technicians at GM dealerships nationwide. The unique program is part of the Army's Soldier for Life support program, helping soldiers reintegrate into their communities after leaving the Army. Upon successful course completion and program graduation, veterans receive career counseling, job-placement recommendations and employment assistance from Army Soldier for Life centers, and access to available GM technician employment opportunities through GM's authorized dealer network.

GM also participates in the U.S. Chamber of Commerce Foundation's *Hiring Our Heroes* initiative aimed at finding meaningful employment for veterans transitioning to civilian life. GM also has numerous collaborations through the GM Foundation, corporate giving and employee fundraising to "Help Our Heroes," which benefit such organizations and activities as Cell Phones for Soldiers, The Fallen and Wounded Soldiers Fund, Detroit Piquette Square Homeless Veteran Housing, and the Achilles Freedom Team of Wounded Warriors.

## LABOR RELATIONS

We respect our employees' right to freedom of association in all countries and comply with our obligations to satisfy all local labor laws and regulations. GM works with about 45 unions globally, representing approximately 80 percent of our global manufacturing workforce. GM's relationships with labor unions are generally healthy and stable business partnerships. In many instances, we have worked collaboratively with our union partners to realize significant increases in performance.

Our management of labor relations is evolving as the nature of unions and the interaction among them evolve around the world. We are increasingly working to share best practices and solutions among regions. As an example, our labor experts from our developed markets often mentor and advise labor personnel in emerging markets.

### Our Largest Union Relationships

United Automobile Workers (UAW)	52,583	United States
The Korean Metal Workers Union (KMWU)	14,000	Korea
The Union of Metal Mechanical Workers	12,075	Brazil
Confederación de Trabajadores de México (CTM)	12,000	Mexico
Unifor	7,832	Canada

## GLOBAL SAFETY WEEK



Becoming “living logos,” employees had their pictures taken “at the wheel” to remind themselves that everything they do affects workplace safety.



An employee takes personal responsibility with the addition of his signature.



A true safety culture requires everyone’s participation.



We’ve renewed our emphasis on workplace safety at GM sites around the world by asking employees to take safety personally.

## GLOBAL SAFETY WEEK



Safety seminars drive home the point that everyone is ultimately responsible for his or her own safety.



A worldwide campaign to promote workplace safety as every employee's responsibility includes posters in cafeterias.



## OPERATIONAL IMPACT

Optimizing our energy, emissions, carbon and water footprints in vehicle manufacturing processes

### PROGRESS:

- Through 2014, decreased manufacturing energy and carbon intensity by 11 percent against a 2010 baseline as we pursue a 20 percent reduction goal for energy and carbon and a 15 percent reduction goal for water by 2020.
- Increased renewable energy use by over 30 megawatts (MW) to just over 100 MW globally.
- Increased the number of landfill-free sites from 111 to 122 sites, while reducing total waste from facilities by 9 percent year-over-year.
- Completed one community outreach activity on an environmental and energy issue at 100 percent of manufacturing facilities around the world.

### PRIORITIES:

- Conduct a midterm review of 2020 manufacturing goals during 2015 to assess the feasibility of increased targets.
- Integrate Environmental Management Systems and Global Manufacturing Systems (GMS).
- Improve operational efficiency through regular internal audits.

### CHALLENGES:

- Prioritizing funding for investments that require a longer investment return horizon as compared with other strategic needs in other areas of the business.
- Overcoming obstacles beyond our control, such as local regulation and lack of recycling infrastructure, to work toward our aspirational zero-waste manufacturing goal.
- Bringing renewable energy to scale at our company and across industries.

GM is committed to manufacturing vehicles with minimal use of natural resources and impact on the environment. With GM Environmental Principles and Policies as a foundation, our manufacturing facilities have been working for years to optimize their environmental footprint. The motivation is simple: Sound resource management helps to drive manufacturing excellence and significant cost savings, both of which help us offer customers better vehicles at more affordable prices. Today, GM is proud to be an industrial leader in energy, emissions, water and waste reduction.

In 2010, we formalized our ongoing efforts in a set of manufacturing commitments to achieve by 2020. Since that time, we have made steady progress across all nine commitments and, in fact, have achieved three commitments seven years ahead of schedule:

- Reduced VOC emissions from assembly painting operations by 10 percent on a kg-per-vehicle basis
- Reduced total waste from facilities by 10 percent on a kg-per-vehicle basis
- Achieved 25 landfill-free, nonmanufacturing sites

In 2015, we have conducted a midterm review of our progress to date for the three commitments we have achieved. While VOC emissions have not been identified as one of our most material issues, we will continue to set internal performance targets that will reduce our impact and drive efficiency in our facilities. We have set new global commitments for reducing total waste and promoting landfill-free sites that will continue to promote innovative waste management practices in our facilities worldwide.

With a baseline of 2010, the new 2020 global manufacturing commitments for total waste reduction and landfill-free sites are:

- Reduce total waste from facilities worldwide by 40 percent on a kg-per-vehicle basis
- Achieve 50 landfill-free, nonmanufacturing sites for a total of 150 landfill-free sites worldwide

These new commitments will also drive performance towards our stretch goal to become the first automotive company in the world to achieve zero-waste manufacturing. While there are many challenges such as regulation and infrastructure, some beyond our own control, we can set this aspirational target that continues to promote leadership, commit to sharing these best practices with our suppliers and partners, and continue to pass this value on for our customers and the environment.

## STRATEGY

We measure and manage our resource use at all our manufacturing locations, as well as our primary engineering centers, parts distribution centers and proving ground sites, around the world. These facilities vary greatly in terms of function, size, and surrounding natural environments that give rise to various concerns in relation to matters such as water scarcity or air quality.

### Holistic

We approach resource conservation from a systems perspective in order to develop optimal strategies. Our annual waste reduction efforts, for example, also eliminate an average of 10 million metric tons of CO<sub>2</sub>-equivalent emissions. Likewise, water and energy use are often linked inextricably, as water can be used to produce energy, and energy to treat and transport water.



The GM Renaissance Center office complex recycles, reuses or converts all its daily waste through the Hamtramck Recycling Facility, diverting 5 million pounds of trash annually from landfills.

### Innovative

Many of our conservation efforts utilize as much creativity and out-of-the-box thinking as we employ to innovate new vehicle technologies. In fact, manufacturing process and product development often cross each other in the quest for resource efficiency. At our Flint Metal Center and several other locations, for example, we recycle foam packaging material into vehicle parts.

### Collaborative

Our ability to realize measurable, global progress reflects a manufacturing culture steeped in the sharing of best practices, particularly behavior. Our plants document and share energy, emissions, water and waste best practices on a monthly basis, and ultimately communicate them to other plants around the world in order to create global impact. Some of these same practices are shared, not only internally to improve the efficiency and impact of our manufacturing processes, but externally as well, to engage local communities and schools about environmental stewardship.

### Incentivized

We link the annual environmental performance of our facilities and our 2020 manufacturing commitments to the compensation of a cross-section of global manufacturing employees and plant-level management. In addition, employees who offer energy and water conservation ideas that are implemented are eligible to receive a portion of the savings up to USD 20,000.

### Sharing Best Practices

We share successes beyond our own walls and often advocate for implementation of sound environmental practices at other industrial companies. An important part of our landfill-free program is to mentor other companies, in part to create scale for recycling infrastructure in various parts of the world. In 2014 alone, we shared our waste management expertise by speaking at more than two dozen external events and mentoring 11 businesses on how to find recycling and reuse options for challenging waste streams. Also in 2014, GM was one of 12 companies to sign the Renewable Energy Buyers' Principles — a clear set of guidelines designed to help utilities and renewable energy providers understand how they can help make renewable energy investments easier for companies and meet rising demand.

Throughout the world, our ability to conserve natural resources and realize savings demonstrates how environmental efficiency is a standard aspect of our manufacturing processes and culture. Today, sound environmental processes are the norm rather than the exception for GM facilities throughout the world. Here is a sampling of our success stories in 2014.

#### ***Marion, Indiana***

Became a member of the Indiana Environmental Stewardship Program, a voluntary leadership initiative for businesses that go above and beyond current environmental regulation.

#### ***Saginaw, Michigan***

The first GM facility in the world to use LED technology externally as part of an internal and external lighting upgrade.

#### ***GM Korea Design Center***

Received LEED Gold Certification.

#### ***Joinville, Brazil***

Became the first automotive plant in South America to earn LEED Gold Certification.

#### ***San Luis Potosi, Mexico***

Became first GM plant in North America and only vehicle manufacturing plant in Mexico to receive ISO 50001 certification.

#### ***Rosario, Argentina***

The first industrial park to earn ISO 50001 certification in the Americas.

#### ***Talegaon, India***

Is successfully finding more reuse rather than recycle opportunities for its sturdy nonhazardous metal pallets by selling them to a company that modifies and turns them into construction scaffolding equipment.

#### ***Changwon, South Korea***

Completed construction of 6.5 MW solar installation and announced plans to increase capacity to 11.5 MW completed by February 2015.

#### ***Luton, United Kingdom***

Recognized with the UK's prestigious Green Apple Award in the Environmental Best Practice category for the automotive sector for Vauxhall's increased focus on recycling, as well as other environmental stewardship activities.

#### ***Zaragoza, Spain***

Achieved landfill-free certification after overcoming challenges to dispose of paint sludge, which a partner now uses to generate electricity.

#### ***St. Catharines, Canada***

GM Canada's first renewable energy project harnesses the cooling energy of canal water to also help reduce energy consumption and carbon emissions.

## ENERGY USE & EMISSIONS

Our facilities are working toward a 20 percent reduction in energy and carbon intensity by 2020 against a 2010 baseline. Since our 2010 baseline year, the company has realized energy improvements of 11 percent, while carbon emissions intensity has decreased by 11 percent as well.

Beyond our own manufacturing commitments, we are leaders in a number of external energy conservation programs. The U.S. Environmental Protection Agency (EPA) has recognized GM as an ENERGY STAR® Partner of the Year — the highest designation a corporation can receive from the agency — for three consecutive years and awarded Sustained Excellence in Energy Management for two years in a row.

Our Opel engine plant in Szentgotthárd, Hungary, produces some of the most fuel-efficient gasoline and diesel engines in the world, using a variety of energy-efficient solutions:

- “Smart” windows that require no electric energy and fill with gas to control the amount of light transmitted, in order to control appropriate visual conditions.
- New boilers that separately control hot and warm water to improve combustion efficiency and reduce natural gas consumption.
- Improved central coolant systems that control both pressure and volume to decrease power use.

These and other measures have enabled the plant to reduce its energy usage by 888 KwH and receive an award in 2014 for energy savings and its contribution to a “Virtual Power Plant Program” that publishes energy insights and results to benefit an array of companies.



In addition, GM remains the global leader in the U.S. EPA ENERGY STAR® Challenge for Industry with 70 of its worldwide facilities meeting the challenge. The requirements are to reduce energy intensity by 10 percent within five years. In 2014, seven new facilities met the challenge and an additional seven met the challenge for the second or third time. Collectively, these

facilities cut energy intensity by an average of 17 percent, avoided \$33 million in energy costs and reduced CO2 emissions by 220,000 metric tons.

We continue to participate in the U.S. Department of Energy Better Buildings, Better Plants program. This commitment calls for us to reduce energy costs, per unit of production, at 31 of our U.S. facilities. The result is an anticipated 25 percent or greater combined reduction in energy use at these plants by 2018.

## RENEWABLE ENERGY

Renewable sources comprise a significant part of our manufacturing energy strategy. Today, we have more solar installations in the U.S. than any other automaker and have the second-highest percentage of solar facilities among all commercial users, according to the Solar Energy Industry Association. GM is among a handful of Fortune 100 companies committed to reducing energy intensity, while increasing renewable energy generation. During the past 12 months, we have increased renewable energy use by over 30 megawatts (MW) to just over 100 MW globally, primarily from the addition of waste-to-energy and landfill gas electric generation in Michigan and solar power in Ohio.

Continued investment in solar power enables us to grow our business while decreasing our carbon footprint and minimizing the risks associated with energy-related volatility. Though the business case for solar varies to a degree based on location, a more than 60 percent drop in solar prices since early 2011, according to the Solar Energy Industry Association, has allowed for huge growth in the industry, we are moving to a point where solar is grid parity in more places — the point when the price of an alternative energy source becomes less than or equal to the cost of purchasing power from the grid.

This progress is behind our move to become a signatory to the Renewable Energy Buyers' Principles in 2014. Created by the World Wildlife Fund and World Resources Institute, this informal consortium of 19 companies has committed to identifying commonalities among us, sharing best practices and creating a set of guiding principles to help the renewable market understand the needs of large industrial renewable energy buyers. GM is also a founding member of the Business Renewables Center, a collaborative platform launched in early 2015 by the [Rocky Mountain Institute](#). The center aims to accelerate corporate renewable energy procurement with a goal of nearly doubling U.S. capacity of wind and solar energy by 2025. The Renewable Energy Buyers' Principles set a framework for the partnership and guide the Business Renewables Center.



*Our mission to transform transportation includes revolutionizing how cars are manufactured. Investments in renewable energy and a steady increase in landfill-free manufacturing sites enable us to envision the day when a vehicle can be built with a neutral environmental impact.*

## WASTE

The automotive industry is a material resource-intensive industry, which makes waste minimization an important mission for GM. Responsible management of the materials used in our products and waste created by our manufacturing processes impacts our business strategy and the communities in which we operate.

Today, our facilities recycle, reuse and compost 85 percent of the waste they generate — more than any other automaker. This rate translates into the avoidance of over 10 million metric tons of CO<sub>2</sub>-equivalent emissions, which more than offsets total facility operational impacts of 8.0 million metric tons of our direct and indirect emissions. In 2014, we improved our waste intensity performance by 7 percent and increased the number of landfill-free operations to 122 facilities.

New landfill-free sites in 2014 include CAMI Assembly in Ingersol, Ontario, Canada; Colmotores Assembly in Colombia; Joinville Engine in Brazil; Chevy Sales in India; Zaragoza Assembly and Stamping in Spain; Grand Rapids Operations, Burton Warehouse and Distribution Center, and GM Heritage Center, all in Michigan; Shanghai GM Headquarters in China; and Fontana Warehouse and Distribution Center in California.

Our initiatives in this area of waste management have been transformational, as we have built the business case for zero waste. We view waste as a “resource out of place” — a philosophy that regards all byproducts as useful and marketable. This has resulted in generating as much as \$1 billion in byproduct recycling and reuse revenue in recent years — an amount that fluctuates as we reduce the amount of scrap waste that can be sold as a result of our efforts to design waste out of the production process.

## WATER

Water scarcity is a complex global issue that requires the attention of major industrial companies throughout the world. Though we identify only 18 percent of our operations to be in water-stressed areas,<sup>1</sup> GM is committed to responsible water management and a 15 percent reduction in water intensity, based on a 2010 baseline, by 2020. In 2014, our progress toward this goal continued with a 2 percent reduction in water intensity from 2013. Our commitment to water management is also reflected in our transparency and disclosure efforts through CDP’s Water program.

<sup>1</sup>Identification as defined by the World Resources Institute’s annual Renewable Water Supply per-person methodology.

We recognize that water is a local issue. This is why our water management policy starts at the facility level, where conservation and stewardship strategies can be aligned with local resources and regulations. For example, two of our facilities in Mexico and one in Egypt are located in water-stressed areas. They are among our most efficient facilities in terms of water intensity, which is based on water consumed per vehicle produced.

Our corporate water stewardship strategy is intended to build on these local water conservation efforts and help us maximize the full potential value of responsible water management for our company and communities. In 2014, we worked with partners such as the World Resources Institute and the Global Environment & Technology Foundation to conduct a global water risk assessment of our direct operations and supply chain. We are using this information to develop mitigation and water stewardship plans that go beyond our extensive efforts in operational water efficiency and more proactively engage local watersheds and communities where we operate.

### LEADERSHIP IN NATURAL HABITATS

GM's water stewardship encompasses enhancing and creating natural habitats around the world, and we are the auto industry leader in wildlife habitats certified by the Wildlife Habitat Council. These and other wildlife habitats enable our employees to have a tangible, positive impact on the biodiversity of local habitats while strengthening relationships with communities.

**40**

certified wildlife programs

**15**

new certifications in 2014

**5,000**

acres of wildlife habitat

## LEADERSHIP IN NATURAL HABITATS



### GUANGDE PROVING GROUND, CHINA

A 27,000-square-foot garden was designed to benefit pollinators, such as bees and butterflies, that are critical to the reproduction of 90 percent of flowering plants and one-third of human food crops worldwide.



### RAMOS ARIZPE COMPLEX, MEXICO

A three-acre artificial lagoon provides both water filtration and purification system for reuse, as well as a natural wetland habitat for migrating and local birds. The lagoon is particularly important in the water-stressed region of northern Mexico.



### JOINVILLE, BRAZIL

Wetlands and containment lakes used for organic wastewater treatment and also treated effluent recycling at the company's facilities, and education programs show how sustainable manufacturing practices help preserve local watersheds and the flora and fauna that rely on them.



### BOWLING GREEN, KENTUCKY

Leftover adhesive used in production of the 2015 Chevrolet Corvette Stingray may help preserve a threatened bat species in North America.



## SUPPLY CHAIN

Strengthening environmental stewardship and social responsibility in our supply chain

### PROGRESS:

- Introduced Strategic Supplier Engagement Program to foster stronger, more productive and transparent supplier relationships that drive performance.
- Increased response rate in CDP Supply Chain Program by 11 basis points and expanded initiative to invite responding suppliers to participate in CDP Action Exchange.
- Filed Conflict Minerals Report and Form SD with the U.S. Securities and Exchange Commission (SEC) with details on GM's Conflict Minerals Program.
- Joined Conflict-Free Sourcing Initiative (CFSI) to collaborate with other industries toward strengthening the integrity of smelters in a conflict mineral-free supply chain.

### PRIORITIES:

- Find ways to promote transparency and sustainability among suppliers without adding duplicative tasks and complexity.
- Evaluate monitoring tools and engagement opportunities to strengthen our supplier relationships around sustainability efforts.
- Expand the scale of our product life cycle analysis to better understand where our greatest environmental impacts occur in the supply chain.

### CHALLENGES:

- Working to better understand how to manage the risks associated with a multilayered supply chain and collaborating with others in the industry to improve supplier management techniques.
- Educating suppliers in all stages of the supply chain about the importance of obtaining smelter information with respect to conflict mineral use and encouraging smelters to join the Conflict-Free Smelter Program.

Supply chains built on strong, transparent and trusted partnerships are critical to ensuring product quality, availability and affordability for our customers. These partnerships are vital to improving our business competitiveness and lowering business risks. They also position us as a customer of choice, helping us transform transportation by working together to find solutions for challenges we face in our industry. And as with any successful relationship, a strong supply chain is also built on integrity, which demands that our company and our suppliers share mutual values.

We have taken a significant step toward building stronger supplier partnerships with the rollout of our Strategic Supplier Engagement (SSE) Program. The program is designed to build strategic relationships by segmenting suppliers based on performance to

business metrics and aligning them with our cultural priorities. The goal is to foster stronger supplier relationships through mutual trust, enable new technology and drive better performance.

SSE is designed to build strategic relationships by being transparent of our expectations of our suppliers in terms of business metrics and alignment with culture and how we ultimately evaluate them. SSE is based on a transparent rating system in which suppliers are assessed on their business and cultural performance. Suppliers who rate highly on both will have increased opportunities to partner with us in areas such as technology visioning, strategic planning and training.

#### SUPPLY CHAIN PERFORMANCE CRITERIA



**Business**

- Quality
- Costs
- Vehicle launch performance
- Efficiency



**Cultural**

- Transparency
- Effective communication
- Engineering innovation

#### GM SUPPLY CHAIN BY THE NUMBERS



**18,500**

suppliers managed



Approximately  
**USD 90B**  
annual spend



Approximately  
**2/3**

total automotive  
costs (excluding  
material costs)



**10X**

More GHG emissions  
than GM facilities

Among the challenges to building trusted relationships with suppliers is finding opportunities to learn more about one another. We are seeking to turn this challenge into a positive through the launch of our Supplying Communities Together initiative. This effort brings together GM and suppliers to expand their buying-and-selling relationship to benefit nonprofit groups through financial contributions and side-by-side volunteer efforts. We launched the initiative in the second half of 2014, with a pledge by the GM Foundation and several suppliers to donate nearly \$1 million and commit 2,500 employee work hours to Habitat for Humanity programs.

Our vision is for the program to be a relationship-building model for GM and its suppliers in other communities around the world and create win-win-win situations. GM and participating suppliers have the opportunity to improve relationships, while the community benefits from their efforts. Supplying Communities Together is featured prominently on the home page of GM's supplier portal, so that projects can be posted to provide information and ideas to GM employees and suppliers.

*GM China's annual Supplier Quality Excellence Awards, created in 2012, demonstrate appreciation for our suppliers' shared commitment to put customers at the center of everything they do and to earn customers for life by helping deliver high-quality products and a world-class owner experience. During 2014, GM China recognized 135 of its top suppliers at the awards ceremony.*

#### SUSTAINABILITY INITIATIVES

Transcending the effort to build stronger supplier relationships is the recognition that we can strengthen our supply chain by eliminating waste of every kind — opportunity, spending, talent, materials, time and energy, to name a few. An efficient supply chain is one that optimizes every type of capital input. By realizing these efficiencies, we build a more sustainable supply chain. Currently, our work is focused in several areas:

**Conflict Minerals.** During 2014, GM filed its first conflict minerals disclosure report. Through this annual SEC disclosure requirement, we have formalized our business processes and are working on continuous improvement initiatives. These processes include providing our Tier 1 suppliers detailed feedback on their conflict mineral reporting submissions and working through the Automotive Industry Action Group (AIAG) to educate suppliers on the importance of due diligence and reporting.

In addition, GM has joined the Conflict-Free Sourcing Initiative (CFSI) to collaborate with other industries to perform research and outreach on smelters to encourage certification of conflict mineral-free smelters. Working with AIAG and CFSI, we have contacted several smelters to encourage them to join the Conflict-Free Smelter Program, recognizing that smelters are the key links in supply chains to identify and eliminate conflict minerals.

**Life Cycle Analysis.** Building on a life cycle analysis (LCA) initiative in 2013, we expanded this project in 2014 to include both greenhouse gas emissions and water. The findings are helping us to better pinpoint where our greatest environmental impacts occur in the supply chain so that we can focus and prioritize our resources.

Automobile Components	GHG, Tons/Vehicle	Water Withdrawal, M3/Vehicle	Energy, MWh/Vehicle
Powertrain	2.0	43.2	3.9
Body	2.8	47.9	4.9
Chassis	2.2	52.6	4.4
Seats	1.3	18.8	2.0
Interior	0.9	55.8	2.3
Electrical	0.6	18.1	1.5
Tires/Wheel	0.6	14.8	1.2
Brake	0.3	9.5	0.7
Glass	0.4	7.1	1.2
Other	0.4	9.9	0.8
Total	11.4	277.7	23.0

**CDP Supply Chain Initiative.** We also leveraged the LCA findings to target suppliers for our second year of participation in the CDP Supply Chain program, a voluntary initiative intended to help increase engagement with suppliers on environmental performance and disclosure, particularly around reducing CO2 emissions. In 2014, we used LCA findings to identify and invite 200 suppliers to participate in the CDP survey and were pleased to see response rates increase from 48 percent in 2013 to 71 percent in 2014. Suppliers who responded to the survey also were invited to participate in the CDP Action Exchange, which provides a detailed analysis of opportunities to reduce carbon and water footprints.

## GM CONFLICT MINERALS POSITION STATEMENT

On Aug. 22, 2012, the U.S. Securities and Exchange Commission adopted final rules to implement reporting and disclosure requirements related to “conflict minerals,” as directed by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

The term “conflict minerals” is defined as columbite-tantalite (coltan), cassiterite, gold, wolframite, tantalum, tin, tungsten and any other mineral or its derivatives determined by the U.S. Secretary of State to be financing conflict in the Democratic Republic of the Congo (DRC) or an adjoining country.

Through industry collaboration, GM has adopted a common methodology to obtain chain of custody declarations from suppliers to increase the transparency of conflict minerals in our global supply chain. GM has been an active contributor within the Automotive Industry Action Group (AIAG) in developing an automotive industry-wide approach in reporting the use of conflict minerals.

We require our suppliers to engage in due diligence of their supply chains to understand and report the content of their parts supplied to GM. Further, we encourage our suppliers to source responsibly with certified conflict-free smelters, wherever possible, to increase our level of confidence that the parts in our vehicles and products contain conflict-free minerals.

## LOCALIZATION

Localization is an important part of our supply chain philosophy. We prefer to build where we sell and to buy where we build. This is not a practice followed by all auto manufacturers because it can increase complexities, add redundancies and drive additional parts and vehicle validation activities. Localization allows us, however, to make our vehicles more competitive by building them to suit unique local requirements and conditions that drive customer enthusiasm and brand loyalty.

Localization also lowers risks by increasing the flexibility of our supply chain to respond to disruptions caused by nature, politics or other causes. Furthermore, when we work with local suppliers, we also support the local economies of the communities in which we operate and realize environmental benefits by helping to minimize shipping, thus reducing fossil fuel use, carbon emissions and material use. GM works cross functionally through its product development activities, sourcing activities and logistic planning to maximize the benefits of localization.

The degree to which we can localize our supply chain varies around the world, depending on local supplier resources. We estimate that in North America and South America 70 to 80 percent of procurement is sourced locally compared to Europe and our international operations, where 60 to 70 percent is procured locally. In China, we estimate more than 80 percent of procurement is from in-country.

## SUPPLY CHAIN GOVERNANCE

We expect our suppliers to be fair, humane and lawful employers, as well as solid environmental stewards and responsible managers of dangerous goods or hazardous materials. These expectations are specifically outlined in purchase contract terms and conditions, which clearly state our prohibition against any use of child labor or any other form of forced or involuntary labor, abusive treatment of employees, or corrupt business practices in the supplying of goods and services to us. Furthermore, our contracts lay out expectations for lawful compliance with data protection and privacy, wages, hours and conditions of employment, subcontractor selection, discrimination, occupational health/safety and motor vehicle safety.



*GM China's annual Supplier Quality Excellence Awards, created in 2012, demonstrate appreciation for our suppliers' shared commitment to put customers at the center of everything they do and to earn customers for life by helping deliver high-quality products and a world-class owner experience. During 2014, GM China recognized 135 of its top suppliers at the awards ceremony.*

We require our Tier I suppliers on a global basis to source from Tier II suppliers who meet in-country environment and safety standards, as well as quality standards. However, visibility into supplier relationships, especially at lower levels of the supply chain, is a challenge. We are working to better understand how to manage the risks associated with a multitiered supply chain and continue to collaborate with others in the industry to improve these areas.

An ongoing challenge for us is to advocate for a sustainable and socially responsible supply chain without adding more complexity and burdens to our supplier relationships. This is why we continue to believe that collaboration among auto manufacturers makes sense, particularly given the concentrated nature of the automotive industry. This approach also helps ensure that automotive suppliers are not overburdened by duplicative OEM efforts and have a shared understanding of the key issues up and down the supply chain.

To help guide industry collaboration and individual company efforts, GM and the other OEM members endorse AIAG Corporate Responsibility Guidance Statements, which provide guidance on business ethics, global working conditions and environmental responsibility. During the past year, we also conducted an exercise with students from the Massachusetts Institute of Technology (MIT) who analyzed how our strategic supplier engagement process could be combined with an AIAG sustainability self-assessment to convert into a sustainability-scoring tool.

## GM PURCHASE CONTRACT TERMS AND CONDITIONS 31. COMPLIANCE WITH LAWS

Seller, and any goods or services supplied by Seller, will comply with all applicable laws, rules, regulations, orders, conventions, ordinances or standards of the country(ies) of destination or that relate to the manufacture, labeling, transportation, importation, exportation, licensing, approval or certification of the goods or services, including, without limitation, those relating to environmental matters, the handling and transportation of dangerous goods or hazardous materials, data protection and privacy, wages, hours and conditions of employment, subcontractor selection, discrimination, occupational health/safety and motor vehicle safety. Seller further represents that neither it nor any of its subcontractors, vendors, agents or other associated third parties will utilize child, slave, prisoner or any other form of forced or involuntary labor, or engage in abusive employment or corrupt business practices, in the supply of goods or provision of services under this Contract. Seller agrees to comply with all applicable anti-corruption laws, including, without limitation, the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, and that neither it nor any of its subcontractors, vendors, agents or other associated third parties will engage in any form of commercial bribery, nor directly or indirectly provide or offer to provide, anything of value to or for the benefit of, any official or employee of a governmental authority or of any government-owned, government-controlled or government-affiliated entity to obtain or retain any contract, business opportunity or other business benefit, or to influence any act or decision of that person in his/her official capacity. At Buyer's request, Seller will certify in writing its compliance with the foregoing. Seller will indemnify and hold Buyer harmless from and against any liability, claims, demands or expenses (including, without limitation, legal or other professional fees) arising from or relating to Seller's noncompliance.

Supply Chain Responsibility Training is another way in which we collaborate with AIAG. This training highlights fundamental principles of responsible working conditions and expectations of GM and the other AIAG auto company members, all of which contributed to developing the content of the training. Participants review in detail the areas of child labor, forced labor, freedom of association, harassment and discrimination, health and safety, wages and benefits, working hours, business ethics and environmental responsibility.

In 2014, our efforts focused on updating our training outreach plans around a three-pronged approach — self-assessment, Web-based training and in-person workshops using case studies for practitioners. Our goal is to leverage this revamped approach to engage suppliers beyond Tier 1 and pilot the new program with suppliers in several countries in 2015.

We also have initiated a number of programs around the world to help enhance supply chain sustainability in terms of environmental and economic performance. In China, we continue to promote the Green Supply Chain Initiative. This initiative dates to 2005, when Shanghai General Motors (SGM) and the World Environment Center (WEC) collaborated to improve the performance of our joint ventures' suppliers in support of the Chinese government's goals of promoting energy efficiency and sustainable development.

## SUPPLIER DIVERSITY

At GM, we recognize the importance of growth and sustainability within our diverse supplier community based on the value chain that connects us with our supply base, customers and surrounding communities. As the demographic makeup around the world continues to shift, the purchasing power increases among diverse segments of the population. For that reason, the inclusion of certified diverse suppliers within our supply chain is a business imperative. Efforts to foster growth of our diverse supply base directly correlate with our ability to deliver creative solutions, industry-leading product offerings and exceptional support services. The Supplier Diversity Program focuses on supplier development, strategic sourcing alignment and enhancing relationships. All of these yield a stronger position in the marketplace for our suppliers. Since 2009, we have purchased \$17.7 billion worth of material and services with certified diverse suppliers.

## SUPPLIER DIVERSITY SPEND

**\$3.77B**  
Total, U.S. and Canada

**\$838.7M**  
or 1.5% total spend  
with women



## COMMUNITY IMPACT

Serving the communities in which we live and work

### PROGRESS:

- Executed hundreds of activities around the world to help create safer, smarter and healthier manufacturing communities.
- Continued to build a global database of community outreach programs from more than 170 manufacturing plants in an effort to better quantify our local impact on a global basis.
- Made significant investments worldwide in science, technology, engineering and math (STEM) programs to help develop the next generation of talent.
- Celebrated the 25th anniversary of GM GREEN, our watershed education program, by expanding participation to include every U.S. and Canadian manufacturing location.
- Extended Safe Kids Worldwide partnership to China.

### PRIORITIES:

- Continue to empower and recognize our employees for their efforts to help our global communities.
- Invest further in education programs that address the talent gap in STEM-related fields.

### CHALLENGES:

- Measuring our impact across hundreds of local community projects and initiatives executed annually.
- Finding more ways to address STEM education initiatives at the K-12 level.
- Scaling our STEM education initiatives on a global basis in a more coordinated and collaborative manner.

The long-term success of our company and that of the communities where we operate are interdependent. We share many of the same natural resources, and we depend on a local pool of talented individuals. Our business viability has both direct and indirect impacts on local economic viability in the form of providing jobs and contributing to the local tax base.

For all these reasons and more, we have a vested interest in helping to create safer, smarter and healthier communities where our employees live and work. While it is often difficult to define the business case for community outreach, and equally difficult to quantify its social impact, we work to ensure that community programs are embedded in our business processes around the world. In 2014, this effort was formalized when GM made serving and improving the communities in which we live and work a part of its corporate purpose.

GM South Africa (GMSA) provides an excellent example of how we are fulfilling this mission. Given South Africa's high unemployment rate, low levels of literacy and an education system that remains fragmented and unequal, GMSA is particularly focused on education programs in order to address root socioeconomic problems. In partnership with Isuzu, for example, GMSA has distributed 18,131 innovative Community Desk lap desks since 2011 to address the chronic lack of desks in schools throughout southern Africa. GMSA also is supporting extension of the project into other Sub-Saharan African countries.



GM distributes *Kommunity Desk* lap desks – portable, ergonomically designed writing surfaces for use at school and at home – to students in South Africa.

Employee volunteerism is an integral part of the GMSA corporate culture, and employees are encouraged to give of their skills and time to company-supported community initiatives. The Chevrolet Ute Force is a team of varied experts, from carpenters and plumbers to industrial designers and video producers, who travel around the country in a fleet of Chevrolet utility vehicles to assist various community projects. The Ute Force has built sports fields and playgrounds, created vegetable gardens, renovated school buildings, mounted fundraising events, installed computers and built furniture, all in their mission to bring hope to communities that need it most.

The GMSA Foundation is the primary driver of the company's community development activities and has a proven track record in partnering with government and other development organizations to address two of South Africa's most critical challenges — public schooling and state-subsidized housing. The Foundation has helped more than 125,000 people throughout the country since its establishment in 1994.

The GMSA health and wellness program for employees, retirees, the broader community and supply chain companies has been frequently recognized in the industry for its comprehensive and innovative approach. The success of GMSA's role in transferring best practices from big business to small and medium companies in the supply chain through a partnership with the Automotive Industries Development Centre (AIDC) and the South African Business Coalition on Health & HIV/AIDS (SABCOHA) has led to the participation of the three major auto manufacturers in a wellness cluster to reach more automotive suppliers across the country.

Though we strive to have a positive impact where we do business, the cyclical nature of the automotive industry can impact a community in the opposite manner. When business downsizing or plant closures are necessary, we work diligently with local governments and other entities to minimize economic and social disruption. In Australia, where engineering operations are downsizing and vehicle manufacturing will be discontinued by the end of 2017, we are contributing AUD15 million to a re-skilling and training program to assist staff leaving Holden. We also have established transition centers at each of Holden's sites to offer a suite of support services, training and ongoing career guidance for departing employees.

## CHARITABLE GIVING AROUND THE WORLD

Charitable giving is an intrinsic part of our heritage and culture. Through our people and resources, GM and the GM Foundation look to make a difference in local neighborhoods and serve the communities in which we live and work. Overall in 2014, the GM Foundation donated \$30.9 million to support communities and nonprofit organizations across the U.S.

In the U.S., the GM Foundation's Plant City Grant program empowers GM operations across the country to give back to nonprofit organizations that provide critical resources in 47 plant cities where GM employees live and work. In 2014, 208 grants totaling \$1.6 million were awarded in 47 U.S. plant cities to a wide variety of organizations that families rely on to provide much-needed services, improve education and impact the quality of life within their respective communities.



GM CEO Mary Barra shares a book with elementary school children.

At the forefront of its efforts, the GM Foundation is committed to making education more accessible from birth through college and beyond. In 2010, the GM Foundation pledged its largest grant ever — \$27.1 million — to United Way for Southeastern Michigan to establish a “Network of Excellence” to combat the dropout epidemic in seven Detroit-area high schools. The grant provides resources to increase graduation rates from roughly 50 to 80 percent by the end of 2015. Increased attendance rates at all seven schools and improving ACT scores are promising signs that this initiative is on track to reach its goal. The United Way grant also helps sustain more than 65 Early Learning Centers to ensure that children in the Detroit area start kindergarten ready to learn.

As the focus on global innovation and technology continues to sharpen, the need for qualified applicants in science, technology, engineering and math (STEM) fields has also become more evident. Because of this, the GM Foundation invests in programs that encourage students to study STEM subjects. The Buick Achievers Scholarship Program, funded by the GM Foundation, annually awards renewable scholarships up to \$25,000 per year to students pursuing careers in the areas of STEM and other fields related to the automotive industry. In four years since the program’s inception, Buick Achievers has awarded nearly \$28 million in scholarships to 3,400 high school seniors and undergraduate students.

An important factor in building stronger families and communities is the stability of a permanent home. Since 2013, the GM Foundation has donated more than \$3 million to Habitat for Humanity International, which has helped 159 partner families realize the dream of homeownership and revitalize 29 neighborhoods across the country.

Outside the U.S., GM has five foundations, including the GM Korea Employee Foundation, the GM South Africa Childlife Foundation, the GM Institute in Brazil and the Chevrolet Foundation in Colombia. These foundations primarily support education, health care and community development programs, as well as addressing select local market needs.

## SAFER COMMUNITIES

GM is committed to helping create safer environments in our communities, as well as in our products and operations. Programs that increase awareness of safe practices and encourage responsible driving are a natural and strategic fit for GM in markets around the world. GM India, for example, hosted Child Safety Talks in schools to raise safety awareness and conducted Road Safety and Pedestrian Safety Workshops that demonstrated the benefit of safety seats to young children.



*Technicians certified by our partner, Safe Kids Worldwide, have inspected more than 1.7 million car seats for proper installation.*

We have numerous initiatives around the world on behalf of child safety, including an 18-year partnership with Safe Kids Worldwide. In total, GM, the GM Foundation, Chevrolet and Onstar have provided nearly \$62 million to Safe Kids to help educate parents and caregivers on the importance of passenger safety. Over the course of this partnership, the Safe Kids Buckle Up program has reached more than 25 million families. With the support of the GM Foundation, Safe Kids-certified child passenger safety technicians have inspected more than 1.7 million child safety seats for proper installation, and more than 550,000 car seats have been donated to families in need.

During 2014, we extended this partnership to China, our largest automotive market, with the launch of the Safe Kids Safe Ride program. As part of the launch, volunteers from GM China and its joint ventures in China visited schools to teach child safety and held program activities in Beijing, Shanghai and Xiamen that benefitted more than 13,000 children and their families. The goal of the Safe Kids Safe Ride program is to reduce vehicle-related child injuries and raise public awareness of child safety in and around vehicles. The program includes classes on the use of child safety seats, safe driving habits, promotional programs and interactive activities related to increasing children's road safety knowledge.



Participants in the Navy STEM camp.

## SMARTER COMMUNITIES

Each year, team members from more than 170 GM facilities in over 30 countries participate in hundreds of local education initiatives — from monetary donations that enhance classroom learning to scholarship programs that further student success to volunteer activities that improve educational facilities. Many of these programs support education in the areas of science, technology, engineering and math (STEM).

Our support of STEM initiatives reflects concern for the talent gap that exists in STEM-related fields today. This gap is the result of too few students, both at the K-12 grade and college levels, interested in pursuing STEM-related degrees, as well as a relatively high dropout rate for those who do choose a STEM path. To address this gap, our STEM support spans a wide range of activities including:

**Competition.** As a founding sponsor of the FIRST® Robotics Competition (FRC®), we support hundreds of teams involving thousands of students around the world. In Mexico, for example, GM employees mentor seven teams, and GM sponsors part of the competition in which all 39 Mexican teams participate. In the U.S. and Canada, we also partner with the Department of Energy and the Argonne National Laboratory to sponsor EcoCAR, an advanced vehicle competition. The current EcoCAR 3 competition, which runs from 2014 through 2018, calls for college students at 16 universities to enhance the latest model Chevy Camaro to further reduce a vehicle's environmental impact.

**Hands-On Instruction.** Reaching its 25th year in 2014, GM Global Rivers Environmental Education Network (GREEN) is the longest-running conservation education program by any automaker, having impacted 150,000 young people through hands-on learning since its inception in 1989. GM helps youth better understand their impact on local watersheds by matching approximately 10,000 students each year with GM mentors at 53 sites — including every manufacturing site in the U.S. and Canada — to develop a community project to address a water issue of concern. The program is considered an excellent model for how the public and private sectors can come together to make a meaningful impact on the environment and communities.



Another long-running partnership is between GM Korea and the South Korean Ministry of Education, who have sponsored The Korea Auto Science Camp for the past 10 years. The annual four-day activity for sixth-graders is designed to nurture interest in the Korean automotive industry. In addition, Opel plants hold outreach activities at least once a year to help students increase awareness of environmental issues, especially those related to automotive manufacturing.

This past year, the undergraduate team from the Vauxhall Luton Plant in the United Kingdom have rolled out their 'Vans R Us' Program to over 400 primary school students. The interactive workshops involve designing a vehicle manufacturing plant which utilizes sustainable energy sources.

**Scholarships and Apprenticeships.** GM facilities around the world have numerous programs to offer practical, hands-on experience to engineering students in their respective countries. In the United Kingdom, Vauxhall regularly hosts apprenticeship career events in which students can attend workshops, presentations and interview sessions to learn more about automotive engineering careers. Vauxhall also fields a team of apprentices from across their sites to compete in the Brathay Apprentice Challenge, a business competition that builds leadership, logistical and communication abilities among apprentice employees.

In the U.S., the Buick Achievers Scholarship Program, funded by the GM Foundation, annually awards renewable scholarships up to \$25,000 per year to students pursuing careers in the areas of STEM and other fields related to the automotive industry. In the four years since the program's inception, Buick Achievers has awarded nearly \$28 million in scholarships to 3,400 high school seniors and undergraduate students.

In some instances, our STEM involvement is tied closely to strategic industry needs. In China, a shortage of automotive researchers and other skilled workers is an ongoing problem. To bridge this gap, GM and other multinational corporations support Partners for the Advancement of Collaborative Engineering Education (PACE). Through donated computer-aided engineering tools, PACE partner companies provide



advanced training and practical experience in automotive product life cycle management to students at strategically selected academic institutions worldwide. In China alone, since 2002, GM has donated equipment worth \$800 million to Chinese learning institutions.

Globally, GM is a founding partner of PACE, which today is comprised of 26 high-tech leading companies partnering with 65 academic institutions in 12 countries. Together this partnership forms a state-of-the-art infrastructure to help shape top talent into the automotive design, engineering and manufacturing team of the future. In the past four years, GM has hired more than 1,300 engineers and designers from PACE Universities around the world, while helping to raise the bar in design and engineering education globally.

## HEALTHIER COMMUNITIES

Our healthier community theme encompasses the health and wellness of community citizens and the environment in which they live. Many initiatives in more rural areas focus on health education. In Talegaon, India, for example, our Women's Council regularly organizes medical teams to provide health-related information for women in nearby villages. Many of our outreach efforts to help nurture healthier communities focus on sponsorships of local fundraising and awareness events, as well as volunteer projects by our employees. The following page features a sampling of these efforts from 2014.



*As part of its STEM outreach, Opel invited more than 100 teenage girls to visit its manufacturing operations in Germany to learn about engineering in the automotive industry and get insights into the job opportunities in technical positions. They participated in a simulated work environment and experienced an assembly production line.*



## ARGENTINA

Chevrolet joined with the Argentinean League Fighting Against Cancer to participate in an awareness campaign for early breast cancer detection by fielding a pink Chevrolet Cruze as an official car in a special SuperTC 2000 race and sponsoring a 10 km run in Rosario.



## UNITED STATES

teamGM Cares volunteers supported numerous projects across the U.S., including rehabilitating homes in a blighted community in need. In total, volunteers charted at least 54,000 community service hours in 2014.



## UNITED KINGDOM

More than 150 employees and undergraduates joined the Vauxhall biking team for a 60-mile fundraising ride from London to Brighton in support of the British Heart Foundation.



## MEXICO

Chevrolet and the Cimab Foundation continue supporting early breast cancer detection by providing education and training to underprivileged women. Employees participate in 5K and 10K races to raise funds that include a raffle for a donated Chevrolet Spark.



## INNOVATION

Innovating technologies that translate into cleaner, safer and more connected transportation options for our customers

### PROGRESS:

- Announced expansion of electric vehicle portfolio with introduction of the next-generation Volt and Chevrolet Spark EV, as well as an all-electric concept vehicle, the Bolt.
- Continued development of fuel cell technology through a partnership with Honda.
- Began deployment of 4G LTE mobile broadband technology by equipping more than 30 of our 2015 models in North America.
- Prepared to launch three vehicle-sharing pilots or programs in North America, Europe and Asia as part of our urban mobility initiatives.

### PRIORITIES:

- Continue the build-out of our EV portfolio by bringing the next-generation Chevrolet Volt to market in the 2016 model year; expanding the geographic availability of the Spark EV and further developing the all-electric Bolt concept.
- Expand deployment of 4G LTE mobile broadband to models in Europe and China during 2015.
- Leverage connectivity technologies to develop semi-autonomous driving and vehicle-to-vehicle (V2V) connectivity within this decade.
- Collect and analyze data from urban mobility pilot programs and testing sites to further build out future business models.

### CHALLENGES:

- Balancing meaningful advances in areas such as fuel economy and mobile emissions, with a competitive cost structure.
- Gaining widespread consumer acceptance of advanced technologies, such as electrification.
- Developing new shared-use business models for vehicles that complement private ownership models.

Rapid population growth and increased urbanization are leading to congested mega-cities. Growing pressure on natural resources — energy, water, land and materials — is creating scarcity issues. Technological advancement is connecting everybody and everything constantly. These and other megatrends are driving rapid change in our world and creating significant challenges. When we look for transformational solutions, technology is the common denominator. In the automotive industry, we believe more change will result from advances in technology in the next five years than has occurred over the past 50 years. Today, GM is a leader in technological innovation and we intend to build upon this lead in order to provide solutions that will transform transportation.

Though the way in which we pursue technological breakthroughs ranges widely, our agenda for innovation and investment is set by one source: our customers. Today, customers — whether they are in Los Angeles, Rio de Janeiro or Beijing — want unfettered and safe personal mobility. More specifically, they expect us to help mitigate, if not eliminate, pollution, traffic accidents, and even congestion. For GM, these are more than noble causes; being

part of the solution is a business imperative. As a result, we are committed to investing in solutions that lead to improved fuel economy and cleaner vehicle emissions; more intelligent and better-connected vehicles; and new business models and platforms for urban mobility. In the process, we expect to not only meet our customers' needs, but also uncover new opportunities for business growth and value creation.

We are fostering innovation in more ways than ever. GM Ventures searches outside our walls to invest in growth-stage companies that we can help to commercialize promising new technologies. Similarly, we are taking a venture capital approach with our own research and development labs, evaluating projects as startups and basing funding on the viability and demonstrated progress of various technologies. Our internal success is reflected in high rankings among all companies in total U.S. clean energy patents granted, according to the Clean Energy Patent Growth Index, a third party that monitors intellectual property activity involving clean technologies on a quarterly basis. We also continue to partner with researchers at many of the world's leading universities, such as Carnegie Mellon and the University of Michigan.

### GM INNOVATION CHALLENGE

The GM Innovation Challenge engages students at four major universities — Pennsylvania State University, Georgia Institute of Technology, Massachusetts Institute of Technology and the University of Michigan in Ann Arbor — in a competition to develop concepts for products and processes that can be deployed on a factory floor. These students are helping to develop practical applications for cutting-edge technologies such as 3D-printing, wearable devices and augmented reality.



### VEHICLE ELECTRIFICATION

A great example of the relationship between customer input and product innovation is the Chevrolet Volt, our extended-range electric vehicle (EREV) that made its market debut in 2010. EREV technology enables pure electric driving for up to an EPA estimated 38 miles and then utilizes a gas-powered engine/generator to seamlessly extend the driving range up to 380 miles. Originally based on research that nearly four in five U.S. drivers commute fewer than 40 miles a day, almost every aspect of the

Volt was developed to satisfy customer desire for a vehicle that delivered environmentally conscious technology and a great driving experience. As a result, nearly four years after its introduction, the Volt continues to garner one of the industry's highest customer satisfaction rankings.

An even greater level of customer input has shaped the development of the next-generation Volt, which was unveiled at the North American International Auto Show in early 2015. This Volt features an all-new propulsion system, developed using feedback from Volt owners' insights along with data collected through OnStar, with owners' consent, on consumer driving behaviors. Thanks to these insights, the next-generation Volt is expected to deliver a GM-estimated EV range of up to 50 miles; total range of more than 400 miles; and an expectation of traveling more than 1,000 miles on average between fueling with regular charging.

Customer research influenced a number of features on the Volt, including the decision to extend the electric range of the vehicle by 20 percent. A study of more than 300 model year 2011 and 2012 Volts in service in California for more than 30 months found that many owners exceed the EPA-rated label of 35 miles of EV range per full charge, with about 15 percent surpassing 40 miles of range. Rather than simply modifying the existing battery, we built a new, lighter battery with more capacity that will exceed performance expectations. The drive unit of the next-generation Volt was re-engineered with a focus on increased efficiency and performance, improved packaging, and reduced noise and vibration characteristics.

The new Volt's debut is accompanied by the introduction of our battery electric vehicle (BEV) concept: the Chevrolet Bolt EV. This concept car builds upon our experience gained from the Volt and Spark EV to bring an affordable and nonexclusive all-electric vehicle to market. The Bolt EV is designed to meet the daily driving needs of consumers with around 200 miles of range. Since it is focused on meeting mass-market customer needs, we view the Bolt EV concept car as an electrification solution that could be sold in 50 states and many global markets.



**700+ Million**

Electric Miles Driven to Date by Volt Owners

**1.2 Billion**

Total Miles Driven

**35 Million**

Gallons of Fuel Saved

Data as of April 2015

In preparation for this next generation of electric vehicles and advanced battery technologies, we are investing \$449 million to upgrade manufacturing processes at our Detroit-Hamtramck Assembly and Brownstown Battery Assembly plants. This is in addition to the approximately \$1.82 billion in capital that has been invested in projects dedicated to vehicle electrification in the past five years.

Despite its many advantages — namely a clean and highly efficient fuel source — the process of mainstreaming electrified vehicles requires patience and a long-term commitment. The consumer learning and acceptance curve for these technologies and their capabilities is a steep one, and product costs remain relatively high for broad segments of the market. The building of a charging infrastructure on a widely deployed basis to support these technologies will also require a long-term commitment and numerous public and private partnerships. Similar challenges are even more magnified for the development of vehicles powered by fuel cell technology, for which virtually no commercial refueling infrastructure exists today.



*Hydrogen fuel cell presents another frontier for advanced propulsion technologies. Since 2007, our fleet of fuel-cell vehicles has logged more than 3 million miles of hydrogen-powered, real-world driving, and we are co-developing next-generation fuel-cell technology through a collaboration with Honda.*

Even with these challenges, GM is steadfastly committed to the continued development of advanced propulsion technologies. The development process not only enables us to offer cutting-edge technology to our customers, but also provides opportunities to leverage that technology by adapting it for more mainstream applications and broader impact. From a longer-term perspective, these technologies are an intrinsic part of our mission to transform transportation to meet the evolving needs of our customers, while helping solve some of the world's most complex challenges.

## CHARGED UP

At GM, we are committed to developing electric vehicles for the mainstream market by contributing to the vehicle-charging infrastructure that customers need. As a founding member of The Workplace Charging Challenge, we seek to persuade employers to commit to provide EV charging access to employees through partnership, advocacy and promotion. We lead by example and today count 473 EV charging stations at our U.S. production and business facilities. More than 20 percent of these stations use electricity generated from solar canopies to help charge employee vehicles. All charging stations are available free of charge to GM employees and visitors. In addition, GM was the first automaker to use the Society of Automotive Engineers (SAE) Combo Fast Charger, which enables the Chevrolet Spark EV to recharge up to 80 percent of its capacity in only about 20 minutes. We are strong advocates for the development of industry standards that drive commonality and harmonization in noncompetitive areas of our business in order to spur more widespread acceptance of electric technologies.



## VEHICLE CONNECTIVITY

Studies show that consumers expect to have technologies that define their daily lives — namely applications found on laptops, tablets and phones — available in their new cars. We are committed to meeting this desire to be connected anytime, anywhere through leading-edge technology that is integrated safely and seamlessly into our vehicles.

That's why in 2014, OnStar launched the industry's largest deployment of 4G LTE mobile broadband. By year's end, more than 30 of our 2015 models in North America were equipped with OnStar 4G LTE that provides Wi-Fi data plan connectivity that allows customers to connect their personal devices to high-speed wireless Internet, including up to seven devices at one time, subject to data plan charges. "Rolling hot spots" are not unique to GM, but to date, these hot spots have been available to only a small segment of luxury-car owners. By embedding

OnStar 4G LTE technology across nearly all vehicles in all segments and eventually in all major markets where our vehicles are sold, we're enabling mobile wireless for mass use. The 4G launch expands to GM models in Europe and China during 2015.



This rollout, however, is about so much more than satisfying the need for constant connectivity. The pairing of connectivity with a suite of advanced technologies is enabling us to develop a new generation of intelligent vehicles that can further the greater good. Consider the potential.

**Safety.** The ability to reduce the likelihood of vehicle crashes is by far the most profound benefit that more intelligent vehicles can deliver. OnStar connectivity combined with an array of features such as adaptive cruise control, cross-traffic alerts and crash-imminent braking, have formed the foundation for emerging safety technologies that will lead to semi-autonomous driving and vehicle-to-vehicle (V2V) connectivity within this decade. Read more about GM's commitment to emerging safety technologies in [Vehicle Safety](#).



A researcher road tests the Cadillac "Super Cruise" with semiautonomous driving technology capable of automatic steering, braking and lane centering in highway driving under optimal conditions.

**Congestion.** This growing concern in mega-cities around the globe can be addressed through applications that enable more efficient use of existing vehicle fleets through car sharing and multimodal transportation systems. GPS-based navigation apps integrated seamlessly into vehicles can turn smartphones into traffic probes to deliver meaningful information to drivers in a more contextual fashion, optimizing routes to save time.

**Fuel Economy.** Route optimization offers environmental benefits by plotting routes that allow for shorter travel time, less engine idling or fewer elevation changes — especially valuable to EV drivers. Connectivity also provides multiple decision tools that aggregate and present data to drivers so that they can drive more efficiently, for example, by adjusting their acceleration or braking. In addition, better vehicle diagnostics to facilitate optimal vehicle maintenance also saves fuel, such as by reminding owners to maintain proper tire pressure.

**Smart Grid.** The connectivity of our electric-powered vehicles creates an array of capabilities that help transform an electrical grid into a "smart grid" by using the EV to help relieve unnecessary stress on the grid. Our agreement with TimberRock Energy Solutions leverages this capability. The project uses aggregation software and EV solar charging canopies with integrated storage to manage the flow of solar power to benefit the electric grid. TimberRock monitors the output of these solar charging stations to see if energy can be sold back to the grid to help meet peak demand. A fleet of Volts is used to help regulate energy flow and supplement the integrated battery storage of the grid. Through OnStar's Demand Response solution, TimberRock can start, stop and modulate the amount of charge reaching each vehicle based on energy need.

Overall connectivity opens the portal to information and entertainment choices for all of our devices, including the vehicle. As the flow of data increases, GM engineers and designers are committed to integrating and delivering it in a way that is relevant, intuitive and safe.

## URBAN MOBILITY

Rapid population growth and urbanization is causing congestion and air quality issues in many of the world's cities — problems that will only become worse when more than 60 percent of the world's population, or about 5 billion people, live in cities by 2030, as projected. This scenario creates both challenges and opportunities for us.

Government regulations seek to curb social and environmental impacts of congestion through measures such as ownership and driving restrictions, tolls and tougher emissions regulations. For example, London already has implemented a toll/payment-based system for vehicles traveling in congested areas to reduce the flow of traffic into and around the city center, and both Helsinki, Finland, and Hamburg, Germany, are exploring ways to ban all vehicles within their city centers, within the next two decades. In China, six major cities already have implemented policies to

## URBANIZATION IMPACTS TODAY

**5.6 Years**

Approximate time city dwellers spent in traffic

**70%**

Car owners who hunt for parking at least once per day

**Up to 30%**

Fuel consumed searching for parking

curb the rate of vehicle ownership, and many more are considering similar measures. Additionally, next-generation customers who live in cities will expect to have alternative transportation and ownership models, beyond traditional vehicle ownership.

Today we have a team dedicated to urban mobility solutions and creating new and innovative business models around services. Our approach is focused on developing foundational capabilities in areas such as technology and data analytics; conducting pilot partnerships to better understand the dynamics of vehicle sharing and other models; and hosting internal initiatives that provide us with a “living lab” to test and learn concepts with the help of GM employees. While exploring a wide variety of new business models, product concepts and services, we seek to innovate a multimodal mobility system with three characteristics:

- *Purpose-built* vehicles, which are space- and energy-efficient, to carry people and goods in congested, multimodal urban environments
- *Connected* systems that combine data, analytics, telematics and app development to enable user/environment interaction and mobility-related services
- *Shared* use enabled by connectivity that ranges from pay-to-use to partial ownership to exclusive ownership

Currently we have several projects underway in different regions of the world, starting right here in Southeast Michigan. We have implemented a car-sharing pilot program involving approximately two dozen vehicles among multiple campus locations. GM employees have enrolled in the program as Beta testers and have completed more than 500 reservations in the program’s initial months. We are analyzing usage data and trends on a monthly basis in order to develop the program through the next year and crystalize our learning for other future endeavors.

Also at our Technical Center in Warren, Michigan, we launched a bike-sharing program in 2014 — the first of its kind for any U.S. automaker — with Zagster, a private bicycle-sharing company. The program enables our nearly 20,000 employees to commute more easily between the 61 buildings in our Tech Center by using Zagster bikes stationed throughout the campus. In its first two months, more than 1,400 riders logged more than 2,000 “rentals” to save approximately 20,710 minutes as compared to walking or riding shuttles around the 330-acre campus.

In Germany, Opel will launch GM’s first European car-sharing program and the first peer-to-peer offering by an automaker in 2015. The program makes available privately owned vehicles, including those from Opel dealerships, for short-term rentals.

Meanwhile in Asia, we continue to test our urban concept vehicle, the EN-V 2.0. After several years of testing the EN-V in an open-city environment, we have moved to a closed campus at Jiao Tong University, a leading technical institution at the forefront of mobility innovation. GM is providing approximately 20 vehicles for faculty and graduate students to facilitate their travel around campus and to better understand the shared use of this purpose-built vehicle.

Though based on three different continents, all of these programs seek to capitalize on the dynamics of a sharing economy, one that serves several strategic benefits for us. Sharing can expose our products to some consumers who may have never experienced our products before or help generate positive perceptions, as in urban consumers who have been a strong GM customer segment historically. Our participation in these projects also begins to solidify GM’s participation as a provider of mobility solutions that appeal to consumers who view “the product” as access to a variety of services.

## 2014 SUSTAINABILITY REPORT



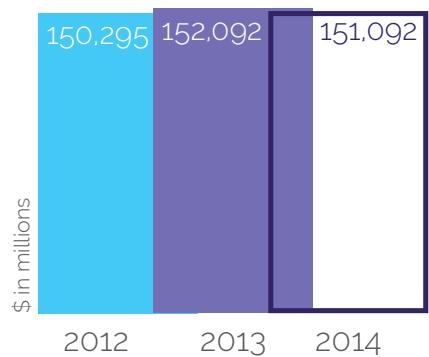
### DATA CENTER

#### IN THIS SECTION:

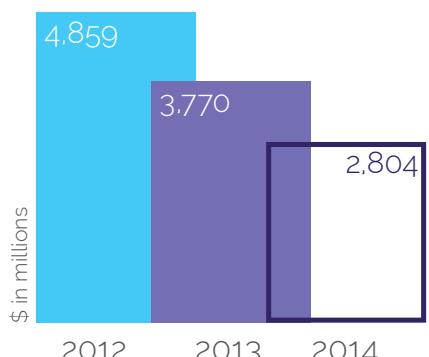
Financial	83
Vehicle	84
Environmental	86
Social	88
Regional	89



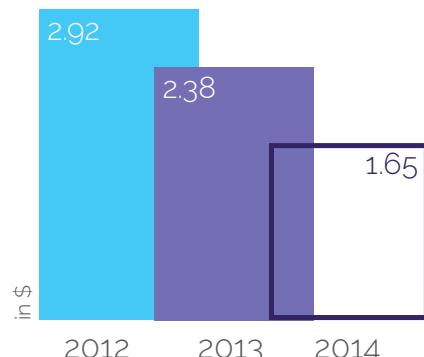
## Worldwide Net Sales & Revenue



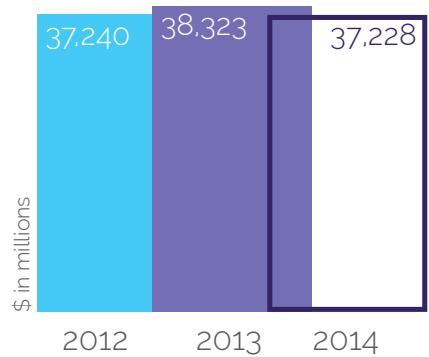
## Net Income Attributable to Common Shareholders



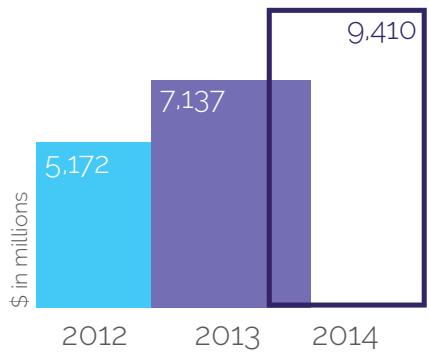
## Diluted Earnings Per Share



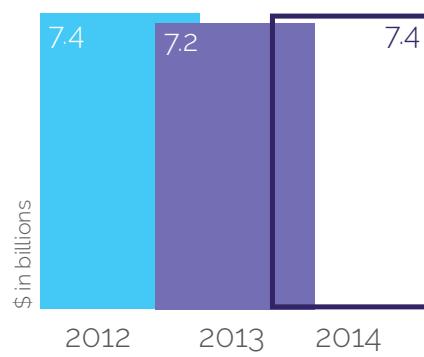
## Total Available Automotive Liquidity



## Debt



## R&D Expenditure



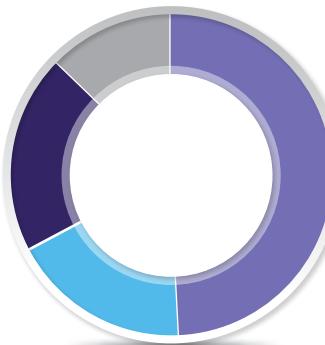
## U.S. Sales as a Percentage of Industry

**14.1%** Cars

**23.4%** Trucks

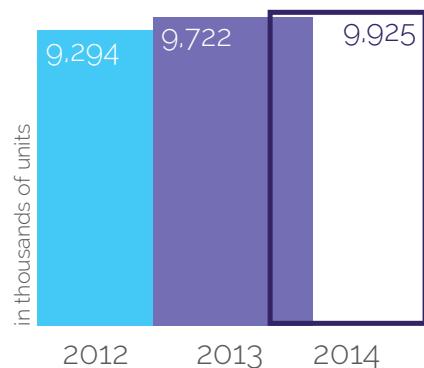
**16.7%** Crossovers

## Sales by Region



in thousands of units  
● North America – 3,413  
● Europe – 1,256  
● International – 4,378  
○ South America – 878

## Total Sales



## Authorized Dealerships by Region



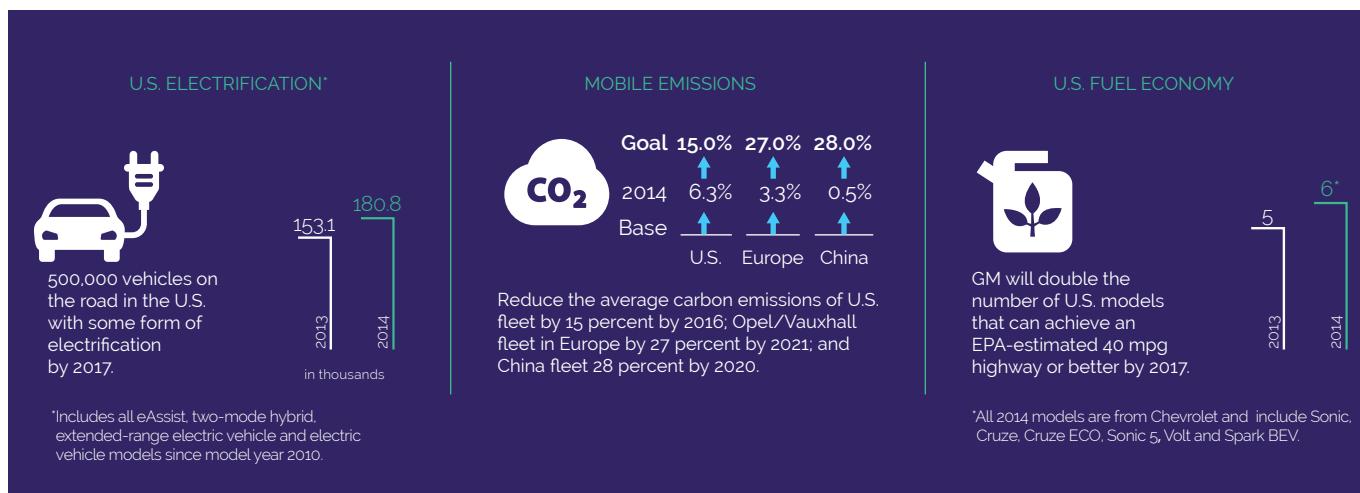
● North America – 4,908  
● Europe – 6,633  
● International – 7,699  
○ South America – 1,272

*We met the local sales and service needs of both individual consumers and fleet customers through our global network of independent dealers.*

## Our Market Share Around the World



## Product Commitments



## Energy Intensity\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO<sub>2</sub> scopes). These data include data from some GM JVs.

## Carbon Intensity\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

Includes all manufacturing and nonmanufacturing CO<sub>2</sub>e emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production. These data include data from some GM JVs.

## Installed Renewable Energy Capacity\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

Renewable energy generation for solar power, landfill gas and hydro-generated electricity may be estimated based on technology capacity factors where actual data is not available. Capacity factors are obtained through the National Energy Laboratory, a division of the U.S. Department of Energy.

## VOC Emissions from Assembly Painting\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

The previous 2010 baseline of 3.8 kg VOC/Vehicle has been updated to account for VOC destroyed by abatement, resulting in a decrease of 0.1 kg VOC/Vehicle for a new baseline of 3.7 kg VOC/Vehicle. VOC emissions are composed of the following emission units: ELPo, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, etc. These data include data from some GM JVs.

## Global Water Intensity\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

Includes all manufacturing and nonmanufacturing facility water consumption (municipal, surface, well), normalized by vehicle production. These data include data from some GM JVs.

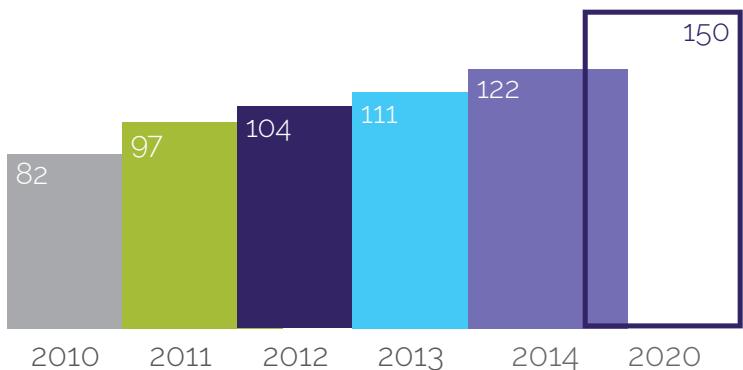
## Waste\*



\*All manufacturing commitments use 2010 as a baseline and are working toward 2020 goals.

Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused waste, construction, demolition and remediation debris. For 2012, a comprehensive global review of waste management classifications identified some instances where closed-looped recycling and other forms of recycling were misidentified as reuse, resulting in an adjustment of previously reported data.

## Landfill-Free Sites



The term "landfill-free" means that all byproducts (wastes) that come from operations are managed by any other method except placement in a landfill. This includes periodic byproducts, such as pit cleanouts. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. The ash generated from GM waste materials at off-site energy recovery facilities is exempt. Individual plants, i.e., assembly, stamping, foundry, engine or transmission plants; parts distribution, proving grounds and technical centers, are treated as "facilities" or "sites." These data include data from some GM JVs.

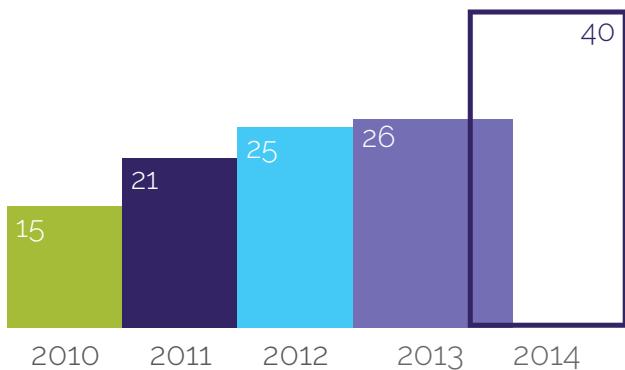
## Community

Promote and engage community outreach on environmental and energy issues by completing one outreach activity per plant on an annual basis.

**100%**  
Participation in 2014

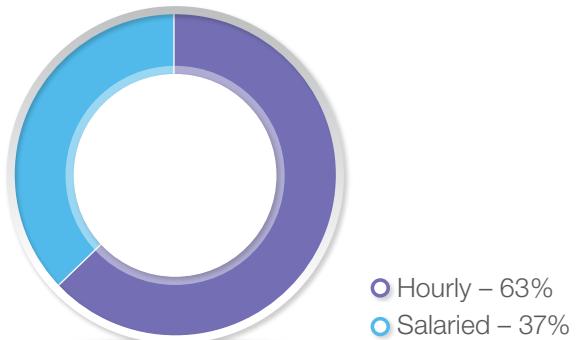
## Wildlife Habitats

Improve wildlife habitat by having a Wildlife Habitat Certification (or equivalent) at each GM manufacturing site where feasible by 2020.

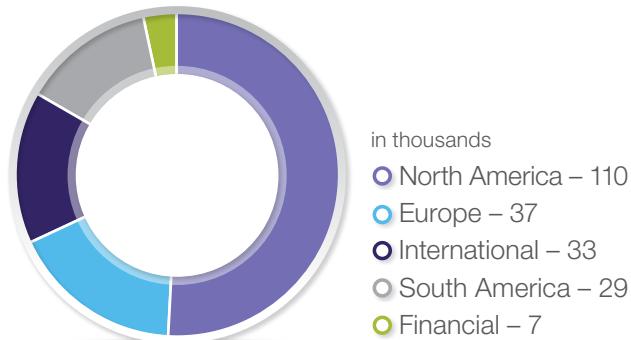


Co-located sites, such as an assembly plant, stamping plant and engine plant all located at the same complex, are treated as a single site.

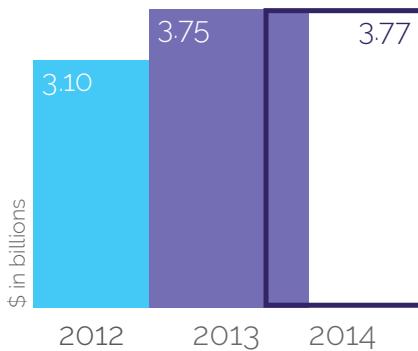
## Employees by Type



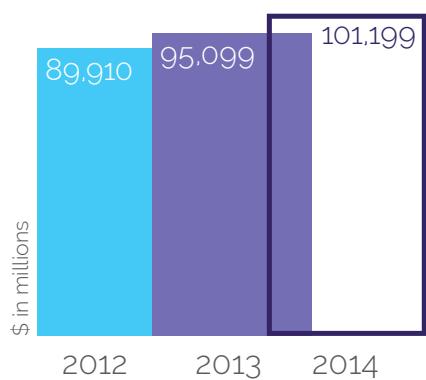
## Employees by Business



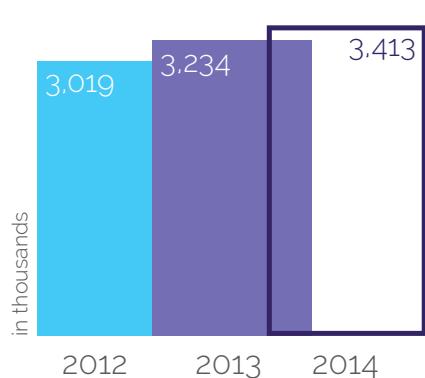
## Supplier Diversity Spend: Total Dollars



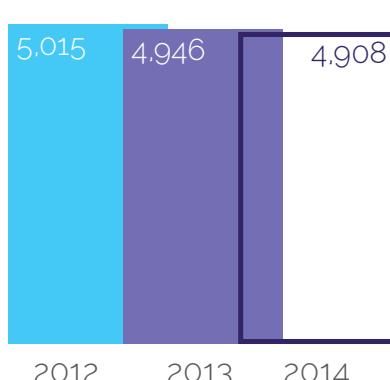
## Net Sales &amp; Revenue



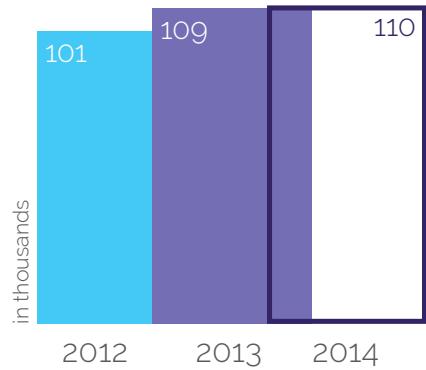
## Vehicle Sales



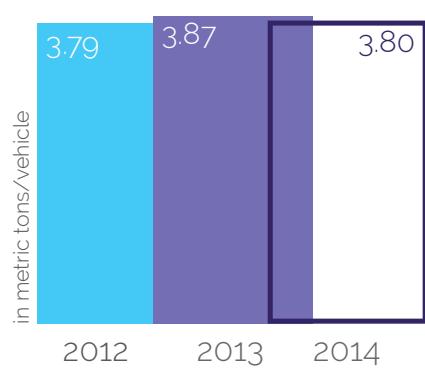
## Authorized Dealerships



## Employees



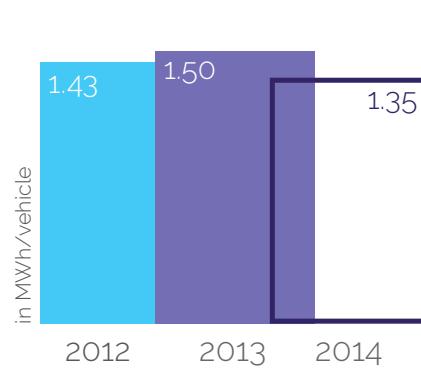
## Energy Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO<sub>2</sub> Scopes). These data include data from some GM JVs.

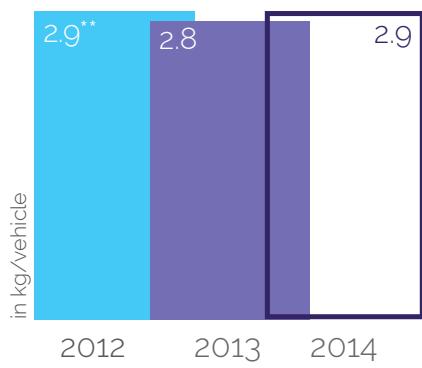
## Carbon Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing CO<sub>2</sub>e emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production. These data include data from some GM JVs.

## VOC Emissions\*

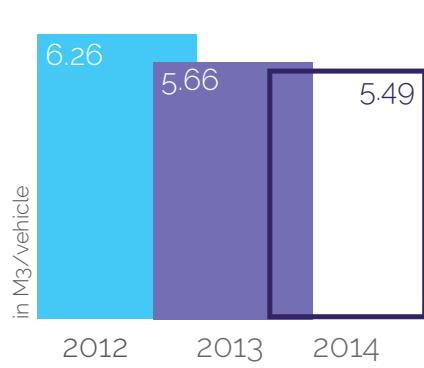


2011 Baseline Year.

\*VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, sealers, etc. These data include data from some GM JVs.

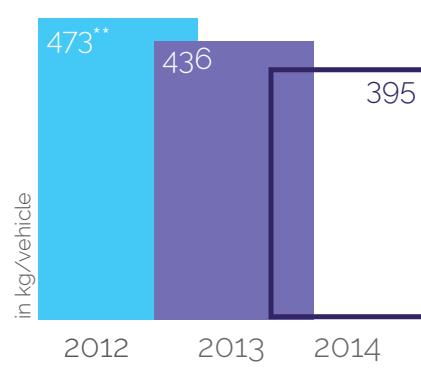
\*\*Note that purge was inadvertently omitted from CY2012 at one plant and this correction accounts for the 0.1 kg/vehicle difference from previously reported data.

## Water Intensity



2011 Baseline Year.

## Waste\*

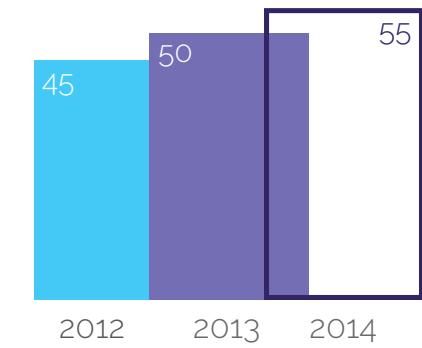


2011 Baseline Year.

\*Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused wastes, construction, demolition and remediation debris.

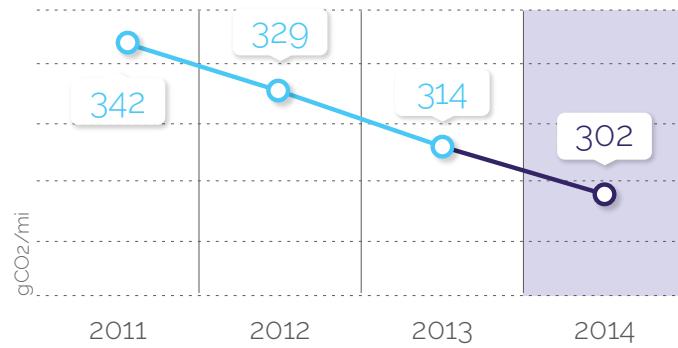
\*\*Reported as 468 kg/vehicle in 2012 Report. In doing a comprehensive global review of waste management classifications, we identified some instances where recycling was identified as reuse. In some cases, this included closed-looped recycling. Reused wastes are excluded for purposes of the kg/vehicle performance, but recycled wastes are included.

## Landfill-Free Sites\*



2011 Baseline Year.

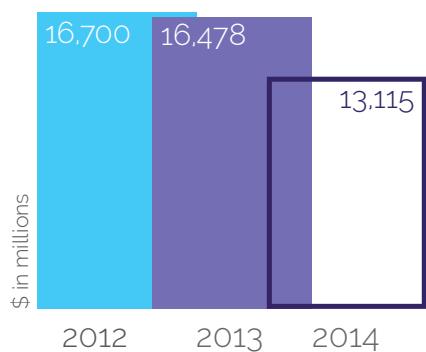
\*The term "landfill-free" means that all byproducts (wastes) that come from operations are managed by any other method except placement in a landfill. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. Ash generated from GM waste materials at off-site energy recovery facilities is exempt.

GM U.S. CO<sub>2</sub>e Fleet Emissions Reduction

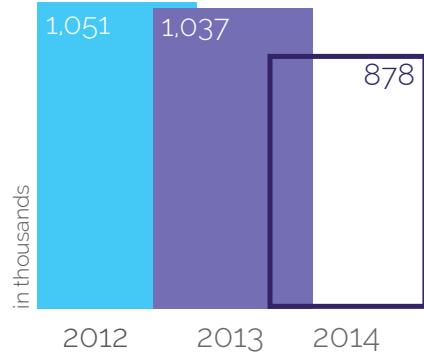
2011 Baseline Year.

Includes all U.S. light-duty vehicle performance.

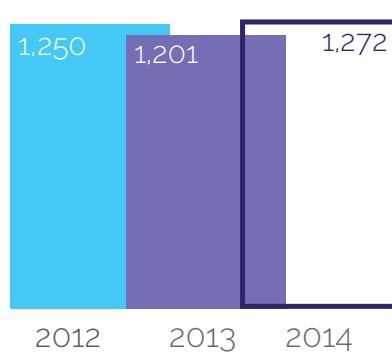
## Net Sales &amp; Revenue



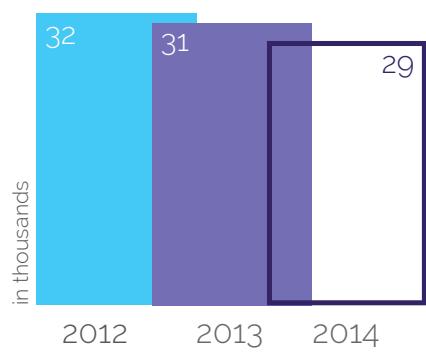
## Vehicle Sales



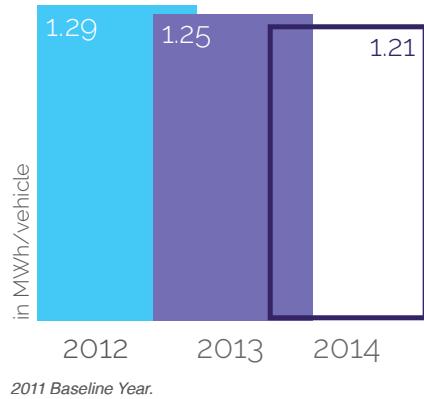
## Authorized Dealerships



## Employees



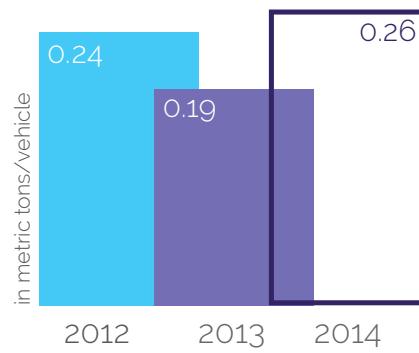
## Energy Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO<sub>2</sub> Scopes). These data include data from some GM JVs.

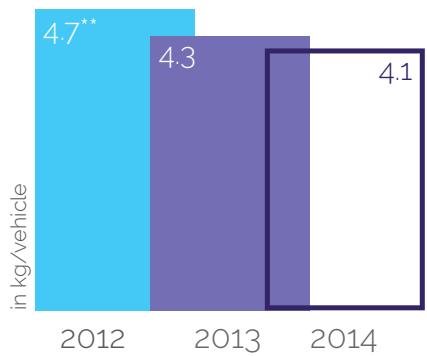
## Carbon Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing CO<sub>2</sub> emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production. These data include data from some GM JVs.

## VOC Emissions\*

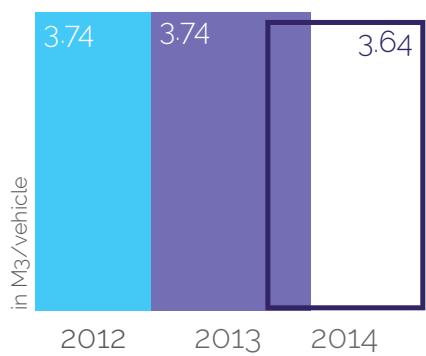


2011 Baseline Year.

\*VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, sealers, etc. These data include data from some GM JVs.

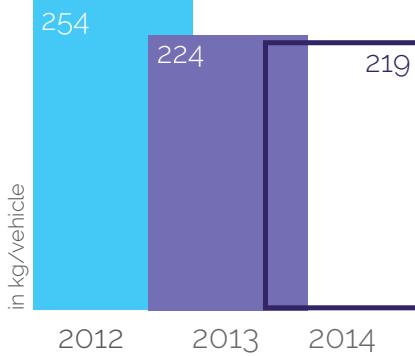
\*\*Reported as 4.6 in 2012 Report. Increase due to correction of an inadvertent omission of some VOC-containing materials from the calculations at one facility.

## Water Intensity



2011 Baseline Year.

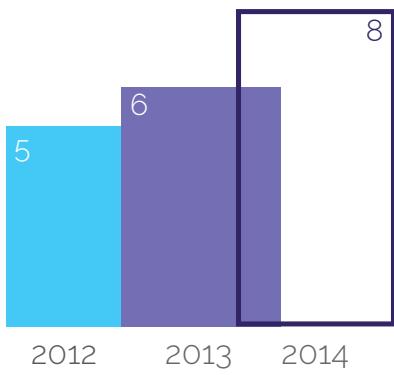
## Waste\*



2011 Baseline Year.

\*Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused wastes, construction, demolition and remediation debris.

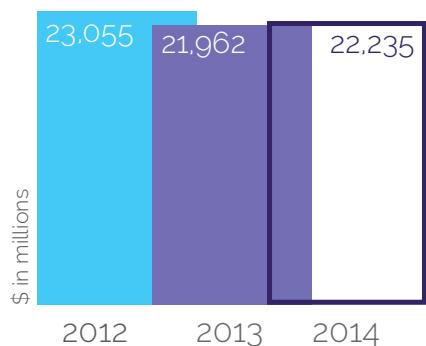
## Landfill-Free Sites\*



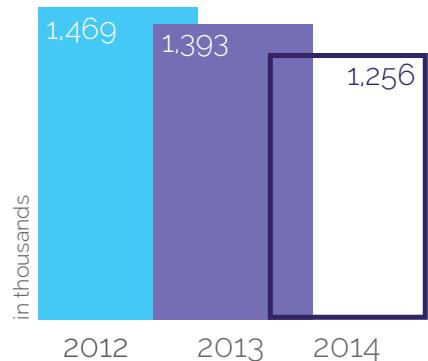
2011 Baseline Year.

\*The term "landfill-free" means that all byproducts (wastes) that come from operations are managed by any other method except placement in a landfill. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. Ash generated from GM waste materials at off-site energy recovery facilities is exempt.

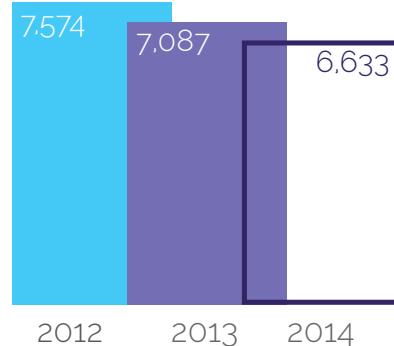
## Net Sales &amp; Revenue



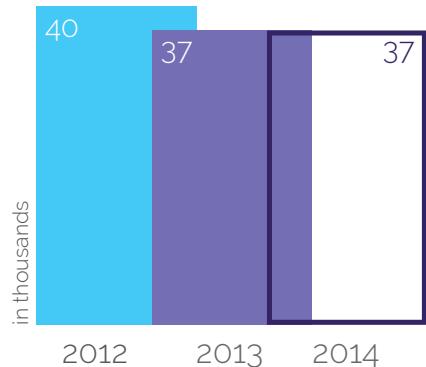
## Vehicle Sales



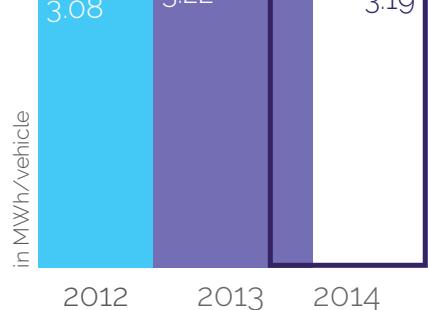
## Authorized Dealerships



## Employees



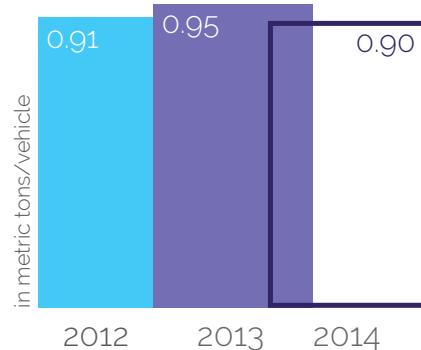
## Energy Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO<sub>2</sub> Scopes). These data include data from some GM JVs.

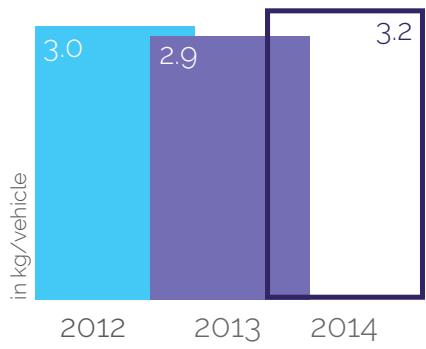
## Carbon Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing CO<sub>2</sub> emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production. These data include data from some GM JVs.

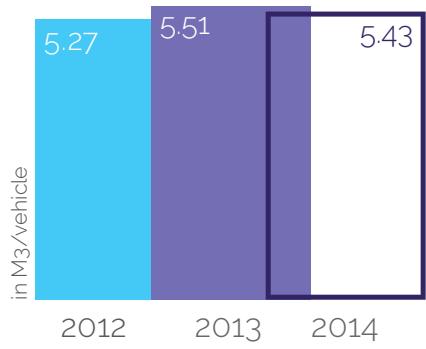
## VOC Emissions\*



2011 Baseline Year.

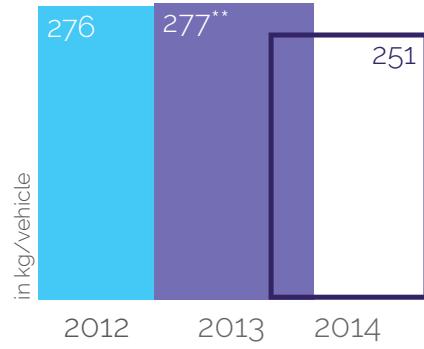
\*VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, sealers, etc. These data include data from some GM JVs.

## Water Intensity



2011 Baseline Year.

## Waste\*

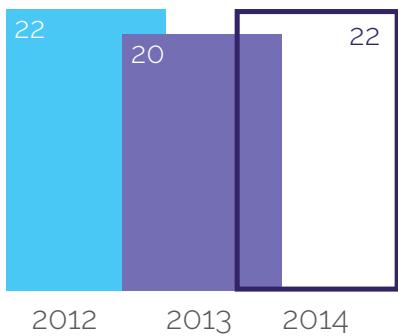


2011 Baseline Year.

\*Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused wastes, construction, demolition and remediation debris.

\*\*2013 was originally reported as 267; realignment of plants between regions is the primary reason for the difference; corrections to the data were also made at one plant.

## Landfill-Free Sites\*



2011 Baseline Year.

\*The term "landfill-free" means that all byproducts (wastes) that come from operations are managed by any other method except placement in a landfill. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. Ash generated from GM waste materials at off-site energy recovery facilities is exempt.

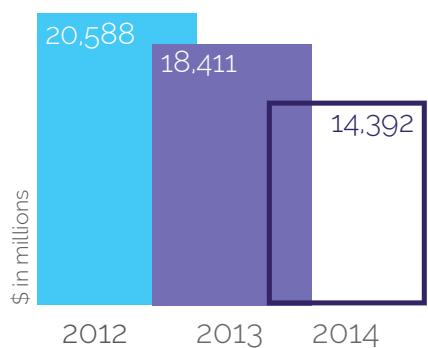
GM Europe CO<sub>2</sub>e Fleet Emissions Reduction\*

2011 Baseline Year.

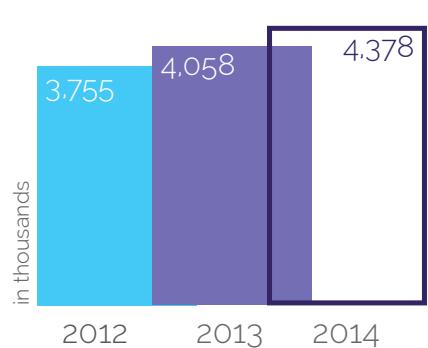
\*EU member states are obliged to annually report CO<sub>2</sub> emission data of new cars and vans under EU Regulation (EC) 1014/2010. Prior-year data have been adjusted to reflect the current GM fleet in Europe, which includes vehicles manufactured by Opel/Vauxhall, GM Korea and GM North America.

\*\*The 2014 number is based on provisional data from the European Commission; the confirmed final number will be available later in 2015.

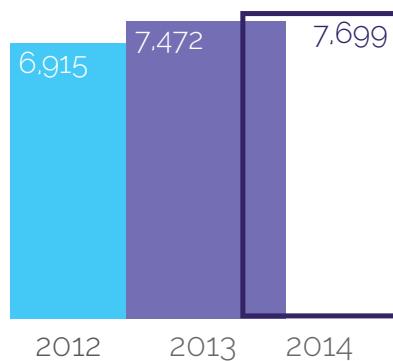
## Net Sales &amp; Revenue



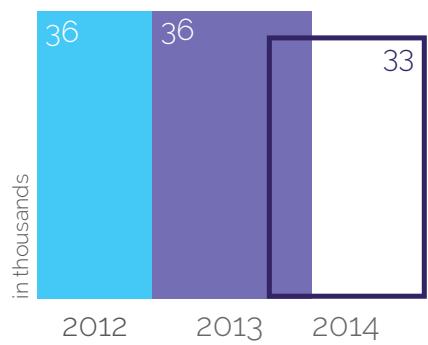
## Vehicle Sales



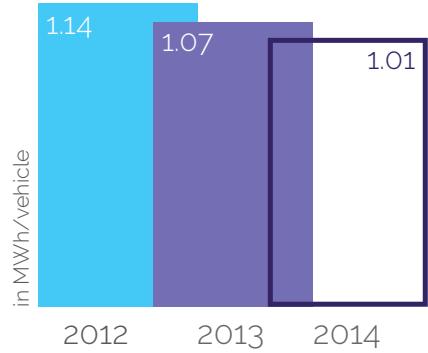
## Authorized Dealerships



## Employees



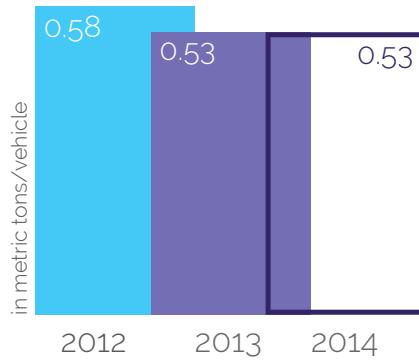
## Energy Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing facility energy use, normalized by vehicle production (correlates to the CO<sub>2</sub> Scopes). These data include data from some GM JVs.

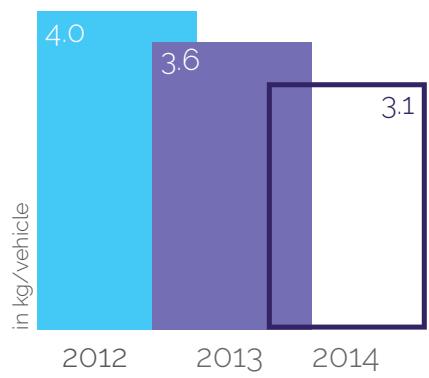
## Carbon Intensity\*



2011 Baseline Year.

\*Includes all manufacturing and nonmanufacturing CO<sub>2</sub> emissions reported in the Carbon Disclosure Project (CDP) Scope 1 & 2 categories, normalized by vehicle production.

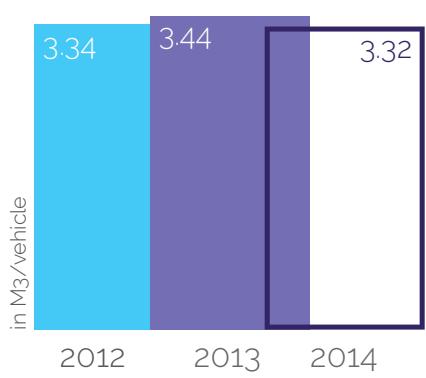
## VOC Emissions\*



2011 Baseline Year.

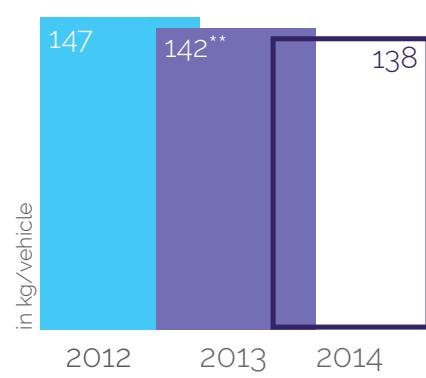
\*VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, sealers, etc. These data include data from some GM JVs.

## Water Intensity



2011 Baseline Year.

## Waste\*

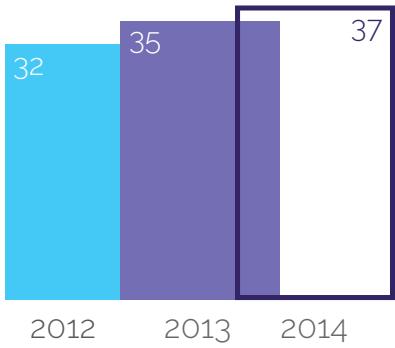


2011 Baseline Year.

\*Total waste includes all byproducts that are generated as a result of daily manufacturing operations. This definition includes metal scrap and foundry sand, and excludes reused wastes, construction, demolition and remediation debris.

\*\*2013 was originally reported as 137; realignment of plants between regions is the primary reason for the difference; corrections to the data were also made at one plant.

## Landfill-Free Sites\*



2011 Baseline Year.

\*The term "landfill-free" means that all byproducts (wastes) that come from operations are managed by any other method except placement in a landfill. Byproduct material residues that have been sent to an off-site recycling center and subsequently landfilled by the processing and/or recycling center must not exceed 1 percent, by weight, of the GM facility's annual total waste production volume. Ash generated from GM waste materials at off-site energy recovery facilities is exempt.

## 2014 SUSTAINABILITY REPORT



### GRI INDEX

For more information about GM reporting practices, see [page 22](#).

Reference Legend

AR – 2014 Annual Report

10-K – 2014 Annual Report on SEC Form 10-K

Proxy – 2014 Proxy Statement

All documents can be found at  
[www.gm.com/company/investors](http://www.gm.com/company/investors)



## General Standard Disclosures

PROFILE DISCLOSURE	DESCRIPTION	REFERENCE/RESPONSE																					
<b>STRATEGY AND ANALYSIS</b>																							
G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	CEO Message																					
<b>ORGANIZATIONAL PROFILE</b>																							
G4-3	Name of the organization.	Profile, 10-K, pg.1																					
G4-4	Primary brands, products, and services.	Profile																					
G4-5	Location of the organization's headquarters.	Detroit, Michigan USA																					
G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	Profile, 10-K, pgs. 18-19																					
G4-7	Nature of ownership and legal form.	General Motors is a publicly held corporation incorporated in the state of Delaware. Our shares trade on the New York Stock Exchange and Toronto Stock Exchange.																					
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	Profile, 10-K, pgs. 1-2																					
G4-9	Scale of the organization.	Profile, 10-K, pgs. 1, 10-11, 18-21																					
G4-10	A. Total number of employees by employment contract and gender. B. Total number of permanent employees by employment type and gender. C. Total workforce by employees and supervised workers and by gender. D. Total workforce by region and gender. E. Whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. F. Any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	Profile, 10-K, pgs. 10-11, GM People Global Headcount:  <table border="1"> <thead> <tr> <th>GM Region</th> <th>Salaried</th> <th>Hourly</th> </tr> </thead> <tbody> <tr> <td>GME Total</td> <td>13,299.0</td> <td>24,168.5</td> </tr> <tr> <td>GMCIO Total</td> <td>13,209.5</td> <td>19,427.0</td> </tr> <tr> <td>GMNA Total</td> <td>40,518.0</td> <td>70,092.0</td> </tr> <tr> <td>GMSA Total</td> <td>6,422.5</td> <td>22,187.0</td> </tr> <tr> <td>GM Financial Company Total</td> <td>6,603.5</td> <td>0.0</td> </tr> <tr> <td>GM Global Total</td> <td>80,052.5</td> <td>135,874.5</td> </tr> </tbody> </table>	GM Region	Salaried	Hourly	GME Total	13,299.0	24,168.5	GMCIO Total	13,209.5	19,427.0	GMNA Total	40,518.0	70,092.0	GMSA Total	6,422.5	22,187.0	GM Financial Company Total	6,603.5	0.0	GM Global Total	80,052.5	135,874.5
GM Region	Salaried	Hourly																					
GME Total	13,299.0	24,168.5																					
GMCIO Total	13,209.5	19,427.0																					
GMNA Total	40,518.0	70,092.0																					
GMSA Total	6,422.5	22,187.0																					
GM Financial Company Total	6,603.5	0.0																					
GM Global Total	80,052.5	135,874.5																					
G4-11	Percentage of total employees covered by collective bargaining agreements.	56%																					
G4-12	Description of supply chain.	Supply Chain																					
G4-13	Any significant changes during the reporting period regarding the organization's size, structure, ownership or its supply chain.	10-K, pg. 69																					
G4-14	Whether and how the precautionary approach or principle is addressed by the organization that requires precautionary measures.	GM does not follow the precautionary approach, but has a comprehensive risk management plan in place.																					

G4-15 Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses. CDP, Business for Innovative Climate & Energy Policy (BICEP) Coalition

G4-16 Memberships of associations (such as industry associations) and national or international advocacy. We work with automotive industry groups in many countries in which we operate, including, but not limited to, AAM (Alliance of Automobile Manufacturers), ACEA (European Automobile Manufacturers' Association), and the Federal Chamber of Automotive Industries (FCAI) in Australia. Examples of other associations we work with include the Engine Manufacturers Association, Diesel Technology Forum, Electric Drive Transportation Association, Battery Electric Vehicle Coalition, and the Fuel Cell and Energy Association.

### IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES

G4-17 A. All entities included in the organization's consolidated financial statements or equivalent documents. 10-K, pgs. 60, 74, 80-81, 113, 123-134

B. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.

G4-18 A. The process for defining the report content and the aspect boundaries. Reporting Practices  
B. How the organization has implemented the reporting principles for defining report content.

G4-19 All the material aspects identified in the process for defining report content. Reporting Practices

G4-20 For each material aspect, the aspect boundary within the organization. Reporting Practices

G4-21 For each material aspect, the aspect boundary outside the organization. Reporting Practices

Issue	Internal	External	Boundary	GRI Aspect(s)
Customer Satisfaction		X	Global	Compliance, Grievance Mechanisms for Impacts on Society, Product Service Labeling
Vehicle Safety	X	X	Global	Customer Health & Safety
Fuel Efficiency & CO2 Emissions	X	X	Global & Regional (with respect to product and manufacturing commitments)	Economic Performance, Emissions, Energy, Product Responsibility – Compliance
GM People	X	X	Global	Employment, Labor & Management Relations, Occupational Health & Safety, Diversity & Equal Opportunity, Freedom of Association, Collective Bargaining
Operational Impact	X	X	Global & Regional	Economic Performance, Water, Energy, Emissions, Biodiversity, Effluents & Waste
Supply Chain	X	X	Tier I Suppliers	Transport, Procurement Practices, Materials, Supplier Environmental Assessment, Supplier Assessment for Labor Practices, Supplier Human Rights Assessment, Supplier Assessment for Impacts on Society, Investment, Child Labor, Assessment
Community Impact		X	Global	Economic Performance, Indirect Economic Impacts, Local Communities, Biodiversity
Innovation	X	X	Global	Economic Performance, Environmental Products & Services, Customer Health & Safety

G4-22	The effect of any restatements of information provided in previous reports, and the reasons for such restatements.	Any restatements, and reasons for such, are footnoted as part of the data presentation within the body of the report.
G4-23	Significant changes from previous reporting periods in the scope and aspect boundaries.	Changes have been noted in footnotes where applicable.
<b>STAKEHOLDER ENGAGEMENT</b>		
G4-24	List of stakeholder groups engaged by the organization.	Stakeholder Engagement
G4-25	Basis for identification and selection of stakeholders with whom to engage.	Stakeholder Engagement
G4-26	Approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	Stakeholder Engagement
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. The stakeholder groups that raised each of the key topics and concerns.	Stakeholder Engagement
<b>REPORT PROFILE</b>		
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	Reporting Practices
G4-29	Date of most recent previous report.	Reporting Practices
G4-30	Reporting cycle (such as annual, biennial).	Reporting Practices
G4-31	Contact point for questions regarding the report or its contents.	gm.sustainability@gm.com
G4-32	A. 'In accordance' option the organization has chosen. B. GRI content index for the chosen option. C. Reference to the external assurance report, if the report has been externally assured.	Reporting Practices
G4-33	A. Policy and current practice with regard to seeking external assurance for the report. B. If not included in the assurance report accompanying the sustainability report, the scope and basis of any external assurance provided. C. Relationship between the organization and the assurance providers. D. Whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	Due to limited assurance on most limited data streams within the report, the BOD are not involved in seeking assurance for GM's Sustainability Report.

## GOVERNANCE

G4-34	Governance structure of the organization, including committees of the highest governance body; committees responsible for decision-making on economic, environmental and social impacts.	Governance, Proxy
-------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------

## ETHICS AND INTEGRITY

G4-56	Values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	Ethics, Our Core Values
-------	---------------------------------------------------------------------------------------------------	-------------------------

## Specific Standard Disclosures

PROFILE DISCLOSURE	DESCRIPTION	REFERENCE/RESPONSE
<b>ECONOMIC</b>		
Economic Performance	DMA	Innovation, Community Impact, Operational Impact, Fuel Efficiency & CO2 Emissions, Customer Satisfaction
G4-EC1	Direct economic value generated and distributed.	10-K, pgs. 55-59
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	Fuel Efficiency & CO2 Emissions, Operational Impact, 10-K, pgs. 8, 100
G4-EC3	Coverage of the organization's defined benefit plan obligations.	10-K, pgs. 16, 86-87, 90
G4-EC4	Financial assistance received from government.	GM did not receive any significant financial assistance from any government this year.
Indirect Economic Impacts	DMA	Community Impact
G4-EC8	Examples of the significant identified positive and negative indirect economic impacts the organization has.	Community Impact
Procurement Practices	DMA	Supply Chain
G4-EC9	Proportion of spending on local suppliers at significant locations of operation.	Supply Chain
<b>ENVIRONMENT</b>		
Materials	DMA	Operational Impact, Supply Chain
G4-EN2	Percentage of materials used that are recycled input materials.	Globally, on average, our vehicles are 85 percent recyclable and 95 percent recoverable by weight. In certain cases when introducing new technology, we work with the vehicle-dismantling industry to identify ways to increase the amount of vehicle material that is salvaged and can be recycled or reused in new vehicles or other consumer products. All of these efforts follow ISO and internally developed standards.

Energy	DMA	Fuel Efficiency & CO2 Emissions, Operational Impact																																				
G4-EN3	Energy consumption within the organization.	Conversion factor source is higher heating values from either regulatory or IPCC.  <table border="1"> <thead> <tr> <th>Energy Consumption</th><th>GJ</th><th>Comment</th></tr> </thead> <tbody> <tr> <td>Total fuel consumption from nonrenewable sources</td><td>75,908,302</td><td>Includes all facility energy – electric and heat</td></tr> <tr> <td>Total fuel consumption from renewable sources</td><td>1,066,750</td><td>Includes electric solar, PPAs in Brazil and U.S. landfill gas</td></tr> <tr> <td>Total electricity consumption</td><td>33,118,018</td><td>All fuels minus purchased steam and delivered heat included in electric and heat</td></tr> <tr> <td>Heating consumption</td><td>41,720,027</td><td>Included in electric and heat (all fuels)</td></tr> <tr> <td>Cooling consumption</td><td>—</td><td></td></tr> <tr> <td>Steam consumption</td><td>1,887,253</td><td>Purchased steam and delivered heat (hot water)</td></tr> <tr> <td>Electricity sold</td><td>257,262,412</td><td></td></tr> <tr> <td>Heating sold</td><td>0</td><td></td></tr> <tr> <td>Cooling sold</td><td>0</td><td></td></tr> <tr> <td>Steam sold</td><td>0</td><td></td></tr> <tr> <td>Total Energy Consumption</td><td>76,975,051</td><td></td></tr> </tbody> </table>	Energy Consumption	GJ	Comment	Total fuel consumption from nonrenewable sources	75,908,302	Includes all facility energy – electric and heat	Total fuel consumption from renewable sources	1,066,750	Includes electric solar, PPAs in Brazil and U.S. landfill gas	Total electricity consumption	33,118,018	All fuels minus purchased steam and delivered heat included in electric and heat	Heating consumption	41,720,027	Included in electric and heat (all fuels)	Cooling consumption	—		Steam consumption	1,887,253	Purchased steam and delivered heat (hot water)	Electricity sold	257,262,412		Heating sold	0		Cooling sold	0		Steam sold	0		Total Energy Consumption	76,975,051	
Energy Consumption	GJ	Comment																																				
Total fuel consumption from nonrenewable sources	75,908,302	Includes all facility energy – electric and heat																																				
Total fuel consumption from renewable sources	1,066,750	Includes electric solar, PPAs in Brazil and U.S. landfill gas																																				
Total electricity consumption	33,118,018	All fuels minus purchased steam and delivered heat included in electric and heat																																				
Heating consumption	41,720,027	Included in electric and heat (all fuels)																																				
Cooling consumption	—																																					
Steam consumption	1,887,253	Purchased steam and delivered heat (hot water)																																				
Electricity sold	257,262,412																																					
Heating sold	0																																					
Cooling sold	0																																					
Steam sold	0																																					
Total Energy Consumption	76,975,051																																					
G4-EN4	Energy consumption outside of the organization.	Not applicable																																				
G4-EN5	Energy intensity.	2.19 MWh per vehicle produced.  Energy Intensity was calculated based on the production of 9,752,464 vehicles and included all energy within the organization, both manufacturing and nonmanufacturing.																																				
G4-EN6	Reduction of energy consumption.	1,693,825 GJ  All types of facility energy were included in the reductions. The basis for calculation is absolute reduction from activities in 2014. Standards, methodologies and assumptions used were good engineering practices.																																				
G4-EN7	Reductions in energy requirements of products and services.	Fuel Efficiency & CO2 Emissions, CDP Report																																				
Water	DMA	Operational Impact																																				
G4-EN8	Total water withdrawal by source.	Reporting is based on invoices and meter data.  <table border="1"> <thead> <tr> <th>Withdrawal Source</th><th>(M3)</th></tr> </thead> <tbody> <tr> <td>Surface water</td><td>996,442</td></tr> <tr> <td>Ground water</td><td>4,564,105</td></tr> <tr> <td>Rainwater</td><td>—</td></tr> <tr> <td>Wastewater</td><td>—</td></tr> <tr> <td>Municipal water supplies</td><td>36,422,453</td></tr> </tbody> </table>	Withdrawal Source	(M3)	Surface water	996,442	Ground water	4,564,105	Rainwater	—	Wastewater	—	Municipal water supplies	36,422,453																								
Withdrawal Source	(M3)																																					
Surface water	996,442																																					
Ground water	4,564,105																																					
Rainwater	—																																					
Wastewater	—																																					
Municipal water supplies	36,422,453																																					
G4-EN9	Water sources significantly affected by withdrawal of water.	8 sources, CDP Water 2014 None is designated as a protected area																																				
G4-EN10	Percentage and total volume of water recycled and reused.	Reporting is based on engineering estimates and meters.  <table border="1"> <thead> <tr> <th>Metric</th><th>(M3)</th></tr> </thead> <tbody> <tr> <td>Total volume of water recycled and reused</td><td>18,610,370</td></tr> <tr> <td>Percentage of total water withdrawal volume recycled and reused</td><td>44%</td></tr> </tbody> </table>	Metric	(M3)	Total volume of water recycled and reused	18,610,370	Percentage of total water withdrawal volume recycled and reused	44%																														
Metric	(M3)																																					
Total volume of water recycled and reused	18,610,370																																					
Percentage of total water withdrawal volume recycled and reused	44%																																					

Emissions	DMA	Fuel Efficiency and CO2 Emissions, Operational Impact						
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1).	<table border="1"> <thead> <tr> <th></th><th>Metric tons CO2</th></tr> </thead> <tbody> <tr> <td>Gross direct GHG emissions</td><td>2,329,813</td></tr> <tr> <td>Biogenic CO2 emissions</td><td>0</td></tr> </tbody> </table> <p>Baseline year is 2010, which was the first full year of operation as the new General Motors Corporation, and includes facilities under GM operational control. Calculation includes CO2, CH4, N2O, HFCs, PFCs, SF6 and NF3. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC Good Practice Guidelines.</p>		Metric tons CO2	Gross direct GHG emissions	2,329,813	Biogenic CO2 emissions	0
	Metric tons CO2							
Gross direct GHG emissions	2,329,813							
Biogenic CO2 emissions	0							
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2).	<table border="1"> <thead> <tr> <th></th><th>Metric tons CO2</th></tr> </thead> <tbody> <tr> <td>Gross indirect GHG emissions</td><td>5,751,940</td></tr> </tbody> </table> <p>Baseline year is 2010, which was the first full year of operation as the new General Motors Corporation, and includes facilities under GM operational control. Calculation includes CO2, CH4, N2O, HFCs, PFCs, SF6 and NF3. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC.</p>		Metric tons CO2	Gross indirect GHG emissions	5,751,940		
	Metric tons CO2							
Gross indirect GHG emissions	5,751,940							
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3).	<table border="1"> <thead> <tr> <th></th><th>Metric tons CO2</th></tr> </thead> <tbody> <tr> <td>Gross other indirect GHG emissions</td><td>325,904,433</td></tr> </tbody> </table> <p>Calculation includes CO2, CH4, N2O, HFCs, PFCs, SF6 and NF3. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC.</p>		Metric tons CO2	Gross other indirect GHG emissions	325,904,433		
	Metric tons CO2							
Gross other indirect GHG emissions	325,904,433							
G4-EN18	Greenhouse gas (GHG) emissions intensity.	<p>0.83 metric tons CO2e/vehicle</p> <p>Calculated on the basis of 9,752,464 production vehicles; includes Scope 1 and 2 emissions and all GHG gases.</p>						
G4-EN19	Reduction of greenhouse gas (GHG) emissions.	<p>288,483</p> <p>Calculated using GHG Protocol on the basis of vehicle emission reduction targets since 2011; includes all GHG gases in Scope 3 emissions.</p>						
G4-EN20	Emissions of ozone-depleting substances (ods).	<p>1.9 metric tons</p> <p>Calculation includes R-11, R-12, R-22, R-123, R-141B, R-500, R-401A, R-402A and R409A. Figure represents actual emissions; if actual emission data were not available, an emission factor of 8.5 percent of the total equipment charge by refrigerant was used to estimate emissions. The 8.5% rate is based on the median range of leakage rate estimates provided by the IPCC Good Practice Guidelines and Uncertainty Management in National Greenhouse Gas Inventories.</p>						
G4-EN21	NOx, SOx, and other significant air emissions.	<table border="1"> <thead> <tr> <th>VOC (k-tons)</th><th>NOx (metric tons)</th><th>SOx (metric tons)</th></tr> </thead> <tbody> <tr> <td>29.7</td><td>1,799</td><td>275</td></tr> </tbody> </table> <p>VOC emissions are composed of the following emission units: ELPO, Primer, Topcoat, Final Repair and Cleaning Solvents, which are considered the major sources of VOC emissions from typical paint shops. Excluded are minor sources of VOC emissions, such as maintenance painting, sealers, etc. These data include data from some GM JVs.</p>	VOC (k-tons)	NOx (metric tons)	SOx (metric tons)	29.7	1,799	275
VOC (k-tons)	NOx (metric tons)	SOx (metric tons)						
29.7	1,799	275						

Effluents and Waste	DMA	Operational Impact																				
G4-EN22	Total water discharge by quality and destination.	<table border="1"> <thead> <tr> <th>Quality and Destination</th><th>in million M3</th></tr> </thead> <tbody> <tr> <td>Total water direct discharge to surface water body</td><td>15.8</td></tr> <tr> <td>Total water indirect discharge to treatment facility</td><td>29.2</td></tr> <tr> <td>Total water discharge to groundwater</td><td>0.3</td></tr> </tbody> </table> <p>Effluent is treated typically via biological or physical/chemical methods, and in some instances by both. Water quality data are based on analytical testing.</p>	Quality and Destination	in million M3	Total water direct discharge to surface water body	15.8	Total water indirect discharge to treatment facility	29.2	Total water discharge to groundwater	0.3												
Quality and Destination	in million M3																					
Total water direct discharge to surface water body	15.8																					
Total water indirect discharge to treatment facility	29.2																					
Total water discharge to groundwater	0.3																					
G4-EN23	Total weight of waste by type and disposal method.	<table border="1"> <thead> <tr> <th>Disposal Method</th><th>In k-tonnes to the nearest whole number</th></tr> </thead> <tbody> <tr> <td>Reuse</td><td>36</td></tr> <tr> <td>Recycling</td><td>2,004</td></tr> <tr> <td>Composting</td><td>3</td></tr> <tr> <td>Recovery, including energy recovery</td><td>96</td></tr> <tr> <td>Incineration (mass burn)</td><td>10</td></tr> <tr> <td>Deep well injection</td><td>—</td></tr> <tr> <td>Landfill</td><td>235</td></tr> <tr> <td>On-site storage</td><td>Minimal</td></tr> <tr> <td>Other (includes microwaving, enclaves, plasma processing and other treatments)</td><td>17</td></tr> </tbody> </table> <p>Includes hazardous and nonhazardous waste from manufacturing operations and some nonmanufacturing and JV facilities, excluding event waste from construction, demolition and remediation. Event waste is recycled to the greatest extent possible and tracked separately. Waste figures may also include vendor tooling used to produce proprietary GM parts.</p>	Disposal Method	In k-tonnes to the nearest whole number	Reuse	36	Recycling	2,004	Composting	3	Recovery, including energy recovery	96	Incineration (mass burn)	10	Deep well injection	—	Landfill	235	On-site storage	Minimal	Other (includes microwaving, enclaves, plasma processing and other treatments)	17
Disposal Method	In k-tonnes to the nearest whole number																					
Reuse	36																					
Recycling	2,004																					
Composting	3																					
Recovery, including energy recovery	96																					
Incineration (mass burn)	10																					
Deep well injection	—																					
Landfill	235																					
On-site storage	Minimal																					
Other (includes microwaving, enclaves, plasma processing and other treatments)	17																					
G4-EN24	Total number and volume of significant spills.	In 2014, GM did not report any significant spills as part of its financial statements.																				
Products and Services	DMA	Fuel Efficiency & CO2 Emissions, Innovation																				
G4-EN27	Extent of impact mitigation of environmental impacts of products and services.	<p>2014 Scorecard</p> <p>Fuel Efficiency &amp; CO2 Emissions</p> <p>Operational Impact</p> <p>Supply Chain</p>																				
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category.	When economically and technically feasible, our materials management group will use recycled metals and plastics and bio-based materials from renewable resources.																				
Supplier Environmental Assessment	DMA	Supply Chain																				
G4-EN32	Percentage of new suppliers that were screened using environmental criteria.	100 percent																				

LABOR PRACTICES AND DECENT WORK		
Labor/Management Relations	DMA	GM People
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specific in collective agreements.	Nearly all of our labor agreements call for regular meetings between top union officials and local GM management. We also have formal processes in place to notify all workers of work stoppages.
Occupational Health and Safety	DMA	GM People
G4-LA5	Percentage of total workforce represented in formal joint management – worker health and safety committees that help monitor and advise on occupational health and safety programs.	GM People
G4-LA8	Health and safety topics covered in formal agreements with trade unions.	GM People
Diversity and Equal Opportunity	DMA	GM People
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	Proxy
Supplier Assessment for Labor Practices	DMA	Supply Chain
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria.	Supply Chain
HUMAN RIGHTS		
Investment	DMA	Supply Chain
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening.	Supply Chain
Freedom of Association and Collective Bargaining	DMA	GM People
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights.	We are not aware of any operations within GM in which these actions have been violated or are at significant risk.
Supplier Human Rights Assessment	DMA	Supply Chain
G4-HR10	Percentage of new suppliers that were screened using human rights criteria.	100 percent

SOCIETY		
Local Communities	DMA	Community Impact
G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Community Impact, 2014 Scorecard 100% of manufacturing locations participated in at least one environmental outreach activity.
G4-S02	Operations with significant actual and potential negative impacts on local communities.	Community Impact
Compliance	DMA	Community Impact, Customer Satisfaction, Vehicle Safety
G4-S08	Monetary value of significant fines and total number of nonmonetary sanctions for noncompliance with laws and regulations.	10-K, pgs. 23, 30-32, 60, 82, 94, 99
Supplier Assessment for Impacts on Society	DMA	Supply Chain
G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society.	100 percent
Grievance Mechanisms for Impacts on Society	DMA	Community Impact, Customer Satisfaction, Vehicle Safety
G4-S011	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms.	10-K, pgs. 23, 27, 30-32, 60, 82, 96, 99
PRODUCT RESPONSIBILITY		
Customer Health and Safety	DMA	Vehicle Safety
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	100 percent
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by types of outcomes.	10-K, pgs. 23-33
Product and Service Labeling	DMA	Customer Satisfaction
G4-PR5	Results of surveys measuring customer satisfaction.	CEO Message, Customer Satisfaction, Innovation

CONESTOGA-ROVERS  
& ASSOCIATES651 Colby Drive, Waterloo, Ontario, N2V 1C2  
Telephone: (519) 884-0510 Fax: (519) 884-0525  
[www.CRAworld.com](http://www.CRAworld.com)

**Statement of Assurance:**  
**General Motors Global Environmental Performance Indicator Data (2014)**

***Scope, Objectives and Responsibilities***

Environmental performance indicator data have been compiled by and under the direction of General Motors (GM) management who are responsible for the collection and presentation of the information. Conestoga-Rovers & Associates (CRA) was retained by GM to conduct an independent review and limited assurance of environmental indicator data for GM's global facilities for the 2014 calendar year reporting period. The objective of the assurance process was to assess the reliability of the data for specified environmental indicators including waste materials, energy usage, water consumption, and greenhouse gas emissions. For waste materials, this involved examination of the data collection processes used by GM and review of the supporting information and data for selected facilities located within the four GM regions (North America, South America, International, and Europe), and discussions with respect to materiality considerations. In a related exercise, CRA has provided verification services for GM's assertions to the Carbon Disclosure Project (CDP) for GM global facilities for 2014 associated with energy usage, greenhouse gas emissions, and water consumption. The objective of the verification was to provide GM with assurance that there are no material discrepancies in GM's 2014 Report and that the information reported is accurate and consistent with the requirements of *The Greenhouse Gas Protocol*. CRA did not undertake a review of GM's 2015 Sustainability Report. CRA's responsibility in performing our assurance activities is to GM management only and in accordance with the terms of reference agreed with GM. CRA provides environmental consulting and engineering/construction services to GM unrelated to this assurance engagement.

***Approach and Limitations***

CRA's assurance engagement has been planned and performed in accordance with GM's requirements and definitions for the reported indices. The assurance approach was developed to be consistent with the Global Reporting Initiative (GRI) G4 Guidelines and international standards for assurance appointments. This includes application of information quality tests based on recognized standards, such as the AA1000 Assurance Standard and associated guidance. Based on the environmental indicator data for individual facilities from each region, CRA identified multiple facilities for further review, representing approximately 10 percent or more of the overall number of manufacturing facilities in terms of both the number of facilities and contribution to the aggregated indicator data. The sample included 25 facilities for waste materials. CRA reviewed supporting information and calculations provided by GM for the selected facilities and specified indicators, and conducted supplemental evaluations in an effort to replicate the results and identify material discrepancies. CRA also conducted discussions with GM personnel responsible for managing the data collection activities and reporting the





- 2 -

data, made enquiries with respect to facility-specific information, and reviewed the resulting responses. This approach is consistent with a limited or moderate level of assurance. CRA verified GM's greenhouse gas emissions in accordance with ISO 14064-3 and *The Greenhouse Gas Protocol*. CRA completed this work to provide a limited level of assurance based on review of data for 31 facilities, comprising approximately 55 to 60 percent of reported energy usage, greenhouse gas emissions, and water consumption.

### ***Conclusions and Recommendations***

GM's procedures and processes for compiling information related to environmental indicators are well established and internally documented as part of its global operations. Database systems are used by facility personnel to upload information which is used for data aggregation and reporting functions at the corporate level. Data for certain types of air emissions and waste materials are subject to local regulatory requirements for compliance reporting, and are subject to internal auditing by GM.

On the basis of the method and scope of work undertaken and the information provided by GM to CRA, the processes undertaken by GM to compile and manage the specified environmental performance indicator data for its global manufacturing facilities provide a reliable and accurate means of reporting its sustainability data. GM provided explanatory information and addressed the issues identified during the course of the assurance exercise. Discrepancies that were identified between the reporting values and the supporting documents for waste materials are not considered to represent material differences. In some cases errors were identified related to data entry, which were corrected by GM. CRA recommends that GM consider CRA's indicator-specific findings as part of GM's ongoing review of internal facility data collection and reporting procedures.

Based on the procedures and processes conducted for a limited level of assurance, with respect to the Scope 1 and 2 energy and associated greenhouse gas emissions reported to the CDP for GM global facilities, CRA did not identify any material issues relative to the data being presented fairly in accordance with the relevant criteria.

CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in blue ink that reads "Julian Hayward".

Julian Hayward, P.Eng.

Dated: April 22, 2015



651 Colby Drive, Waterloo, Ontario, N2V 1C2  
Telephone: (519) 884-0510 Fax: (519) 884-0525  
[www.CRAworld.com](http://www.CRAworld.com)

April 23, 2015

Reference No. 11102036

Ms. Anna Prodin  
General Motors Corporation  
Cadillac Building  
30009 Van Dyke  
Warren, Michigan  
48090

Dear Ms. Prodin:

Re: Verification Statement  
2014 Greenhouse Gas Emissions Report – Carbon Disclosure Project (CDP)  
General Motors Global Facilities Group

Conestoga-Rovers & Associates (CRA) has prepared this letter for General Motors Global Facilities Group (GM GFG). The purpose of this letter is to clarify matters set out in the assurance report. It is not an assurance report and is not a substitute for the assurance report.

This letter and the verifier's assurance report, including the opinion(s), are addressed to you and are solely for your benefit in accordance with the terms of the contract. We consent to the release of this letter by you to the Carbon Disclosure Project in order to satisfy the terms of CDP disclosure requirements but without accepting or assuming any responsibility or liability on our part to CDP or to any other party who may have access to this letter or our assurance report.

In accordance with our engagement contract with GM GFG dated February 4, 2015 (PO# PR5582LZ; the "contract") and for the avoidance of doubt, we confirm that our Verification Report to you dated April, 2015 incorporated the following matters:





April 23, 2015

Reference No. 11102036

- 2 -

1. Boundaries of the reporting company covered by the assurance report and any known exclusions.

The emission sources within the GM GFG operational boundaries subject to this verification included the emission sources associated with the combustion of fossil fuels for energy use from GM GFG operations in GM International Operations (GMIO), GM South America (GMSA), GM North America (GMNA), GM Europe (Opel-Vauxhall). A detailed list of all complexes is included in Appendix A of CRA's Verification Report

GM GFG also provided a list of the facilities that were excluded from the Report to the CDP, with justification as to their exclusion. GM GFG owns and operates facilities that do not track their utilities in the GM2100 system, and therefore do not have data available for reporting. Furthermore, emissions not associated with fuel combustion for energy use (i.e., fugitive emissions, combustion of volatile organics in oxidizers) are excluded from the Report. A list of excluded complexes and emission sources is provided in Section 4 of CRA's Verification Report.

2. Emissions data verified - broken down by Scope 1, Scope 2 and Scope 3 categories with figures given; option to include other relevant data that has been verified with figures.

- Scope 1 Energy: 10,923,409.84 Megawatt hours (MWh)
- Scope 2 Energy: 10,458,548.88 MWh
- Scope 1 Emissions: 2,126,155.51 tonnes of Carbon Dioxide Equivalent (CO<sub>2</sub>e)
- Scope 2 Emissions: 5,751,939.76 tonnes of CO<sub>2</sub>e

3. Period covered (e.g., '12 months to DD MM YY')

12 month calendar year from January 1 to December 31 2014

4. Verification standard used

**ISO 14064-3:2006 -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions**



April 23, 2015

Reference No. 11102036

- 3 -

## 5. Assurance opinion (incl. level of assurance and any qualifications)

CRA has completed the verification to a limited level of assurance. Based on the information provided, nothing has come to CRA's attention to indicate that the 21,381,958.72 MWh (10,923,409.84 MWh for Scope 1 energy and 10,458,548.88 MWh for Scope 2 energy) and 7,878,095.28 tonnes of CO<sub>2</sub>e (2,126,155.51 tonnes of CO<sub>2</sub>e for Scope 1 emissions; 5,751,939.76 tonnes of CO<sub>2</sub>e for Scope 2 emissions) reported to the CDP in 2014 was not presented fairly in accordance with the relevant criteria.

## 6. Verification provider and accreditations (if relevant)

CRA is accredited as a Designated Operational Entity by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), and by ANSI under ISO 14065 as a Greenhouse Gas Validation and Verification Body.

## 7. Lead verifier name and relevant accreditations/professional membership (if relevant)

**Douglas Smith, P.Geo.(Ontario)** – Mr. Smith is Professional Geoscientist in the province of Ontario and has 13 years of environmental consulting experience with CRA. Mr. Smith has extensive experience completing sustainability plans for clients in both the public and private sector, GHG emission inventories, and completing GHG verification projects in accordance with Ontario, Massachusetts, Nova Scotia, Quebec, and Alberta regulatory protocols in addition to voluntary frameworks including the CDP. Mr. Smith is well versed with the current regulations and reporting guidance, with respect to reporting GHG emissions. Mr. Smith has contributed numerous papers and/or presentations to conferences specific to tracking and reporting sustainability initiatives of organizations.

## 8. Lead Verifier's signature

(Signature below)

(CONT)



April 23, 2015

Reference No. 11102036

- 4 -

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in black ink, appearing to read "Douglas Smith".

Douglas Smith, P. Geo

NR/cb/2

Encl.

(CONT)

**CONESTOGA-ROVERS  
& ASSOCIATES**651 Colby Drive, Waterloo, Ontario, N2V 1C2  
Telephone: (519) 884-0510 Fax: (519) 884-0525  
[www.CRAworld.com](http://www.CRAworld.com)

April 20, 2015

Reference No. 11102036

Ms. Anna Prodin  
General Motors Corporation  
Cadillac Building  
30009 Van Dyke  
Warren, Michigan  
48090

Dear Ms. Prodin:

Re: Verification Statement  
2014 Water Disclosure Report – Carbon Disclosure Project (CDP)  
General Motors Global Facilities Group

Conestoga-Rovers & Associates (CRA) has prepared this letter for General Motors Global Facilities Group (GM GFG). The purpose of this letter is to clarify matters set out in the assurance report. It is not an assurance report and is not a substitute for the assurance report.

This letter and the verifier's assurance report, including the opinion(s), are addressed to GM GFG and are solely for your benefit in accordance with the terms of the contract. We consent to the release of this letter by you to the Carbon Disclosure Project in order to satisfy the terms of CDP disclosure requirements but without accepting or assuming any responsibility or liability on our part to CDP or to any other party who may have access to this letter or our assurance report.

In accordance with our engagement contract with GM GFG dated February 4, 2015 (PO# PR5582LZ; the "contract") and for the avoidance of doubt, we confirm that our Verification Report to you dated April, 2015 (the "assurance report") incorporated the following matters:





April 20, 2015

Reference No. 11102036

- 2 -

1. Boundaries of the reporting company covered by the assurance report and any known exclusions.

The Facilities within the GM GFG operational boundaries subject to this verification include GM GFG operations in GM International Operations (GMIO), GM South America (GMSA), GM North America (GMNA), GM Europe (Opel-Vauxhall). A detailed list of all complexes included is provided in Appendix A of CRA's Verification Report

GM GFG also provided a list of the facilities that were excluded from the Report to the CDP, with justification as to their exclusion. GM GFG owns and operates facilities that do not track their utilities in the GM2100 system, and therefore do not have data available for reporting. A list of excluded complexes is provided in Section 4 of CRA's Verification Report.

2. Data verified, with figures - option to include other relevant data that has been verified with figures.

- Water Use: 42,015,430.80 m<sup>3</sup>

3. Period covered (e.g., '12 months to DD MM YY')

12 month calendar year from January 1 to December 31, 2014

4. Verification standard used

**ISO 14064-3:2006** -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

5. Assurance opinion (incl. level of assurance and any qualifications)

CRA has completed the verification to a limited level of assurance. Based on the information provided, nothing has come to CRA's attention to indicate that the reported 42,015,430.80 m<sup>3</sup> of water use was not presented fairly in accordance with the relevant criteria.



April 20, 2015

Reference No. 11102036

- 3 -

## 6. Verification provider and accreditations (if relevant)

CRA is accredited as a Designated Operational Entity by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), and by ANSI under ISO 14065 as a Greenhouse Gas Validation and Verification Body (Accreditation No. 1009).

## 7. Lead verifier name and relevant accreditations/professional membership (if relevant)

**Douglas Smith, P.Geo.(Ontario)** – Mr. Smith is Professional Geoscientist in the province of Ontario and has 13 years of environmental consulting experience with CRA. Mr. Smith has extensive experience completing sustainability plans for clients in both the public and private sector, GHG emission inventories, and completing GHG verification projects in accordance with Ontario, Massachusetts, Nova Scotia, Quebec, and Alberta regulatory protocols in addition to voluntary frameworks including the CDP. Mr. Smith is well versed with the current regulations and reporting guidance, with respect to reporting GHG emissions. Mr. Smith has contributed numerous papers and/or presentations to conferences specific to tracking and reporting sustainability initiatives of organizations.

## 8. Lead Verifier's signature

(Signature below)

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Douglas Smith'.

Douglas Smith, P. Geo

NR/cb/3  
Encl.

## GENERAL MOTORS COMPANY AND SUBSIDIARIES

In this report and in reports we subsequently file and have previously filed with the SEC on Forms 10-K and 10-Q and file or furnish on Form 8-K, and in related comments by our management, we use words like "anticipate," "approximately," "believe," "continue," "could," "designed," "effect," "estimate," "evaluate," "expect," "forecast," "goal," "initiative," "intend," "may," "objective," "outlook," "plan," "potential," "priorities," "project," "pursue," "seek," "should," "target," "when," "would," or the negative of any of those words or similar expressions to identify forward-looking statements that represent our current judgment about possible future events. In making these statements we rely on assumptions and analyses based on our experience and perception of historical trends, current conditions and expected future developments as well as other factors we consider appropriate under the circumstances. We believe these judgments are reasonable, but these statements are not guarantees of any events or financial results, and our actual results may differ materially due to a variety of important factors, both positive and negative. These factors, which may be revised or supplemented in subsequent reports on SEC Forms 10-Q and 8-K, include among others the following:

- Our ability to realize production efficiencies and to achieve reductions in costs as a result of our restructuring initiatives and labor modifications;
- Our ability to maintain quality control over our vehicles and avoid material vehicle recalls;
- Our ability to maintain adequate liquidity and financing sources including as required to fund our planned significant investment in new technology;
- Our ability to realize successful vehicle applications of new technology;
- Shortages of and increases or volatility in the price of oil, including as a result of political instability in the Middle East and African nations;
- Our ability to continue to attract customers, particularly for our new products, including cars and crossover vehicles;
- Availability of adequate financing on acceptable terms to our customers, dealers, distributors and suppliers to enable them to continue their business relationships with us;
- The ability of our suppliers to deliver parts, systems and components without disruption and at such times to allow us to meet production schedules;
- Our ability to manage the distribution channels for our products;
- Our ability to successfully restructure our European and consolidated international operations;

- The continued availability of both wholesale and retail financing from Ally Financial and its affiliates and other finance companies in markets in which we operate to support our ability to sell vehicles, which is dependent on those entities' ability to obtain funding and their continued willingness to provide financing;
- Our continued ability to develop captive financing capability, including GM Financial;
- GM Financial's ability to successfully integrate certain Ally Financial international operations;
- Overall strength and stability of the automotive industry, both in the U.S. and in global markets, particularly Europe;
- Continued economic instability or poor economic conditions in the U.S., Europe and other global markets, including the credit markets, or changes in economic conditions, commodity prices, housing prices, foreign currency exchange rates or political stability in the markets in which we operate;
- Significant changes in the competitive environment, including the effect of competition and excess manufacturing capacity in our markets, on our pricing policies or use of incentives and the introduction of new and improved vehicle models by our competitors;
- Significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on our vehicle sales and market position in China;
- Changes in the existing, or the adoption of new, laws, regulations, policies or other activities of governments, agencies and similar organizations, including where such actions may affect the production, licensing, distribution or sale of our products, the cost thereof or applicable tax rates;
- Costs and risks associated with litigation;
- Significant increases in our pension expense or projected pension contributions resulting from changes in the value of plan assets, the discount rate applied to value the pension liabilities or other assumption changes; and
- Changes in accounting principles, or their application or interpretation, and our ability to make estimates and the assumptions underlying the estimates, which could have an effect on earnings.

We caution readers not to place undue reliance on forward-looking statements. We undertake no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information, future events or other factors that affect the subject of these statements, except where we are expressly required to do so by law.