

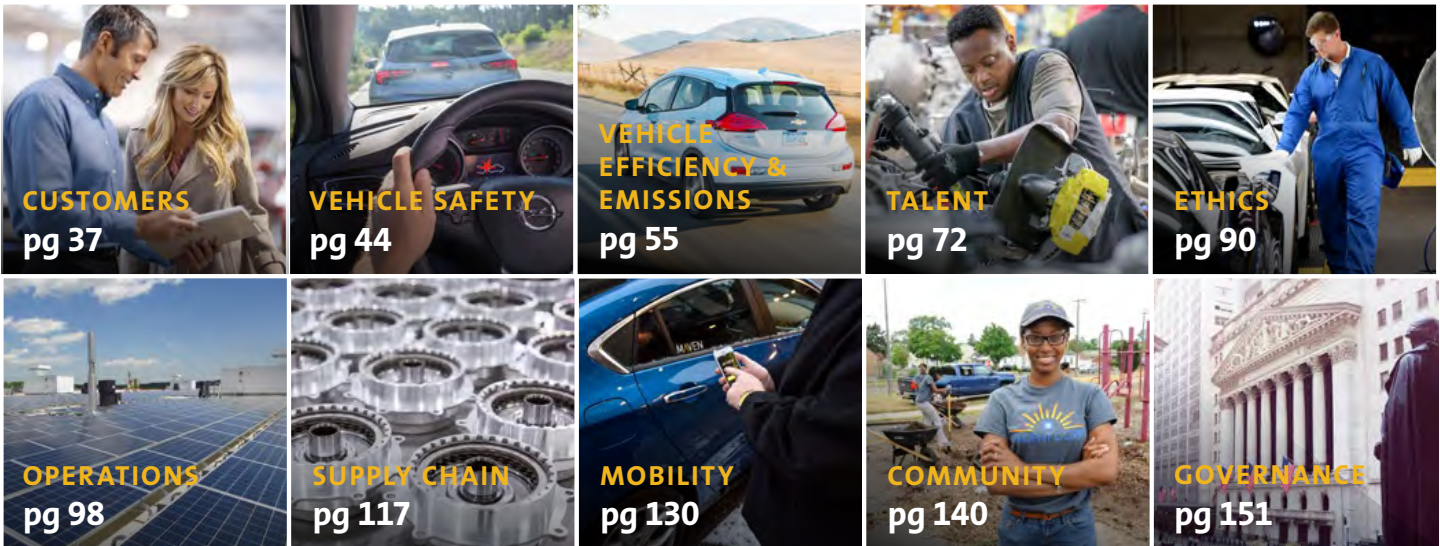


# Moving Forward

GENERAL MOTORS

2016 SUSTAINABILITY REPORT

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# What We Aspire To Do

We achieve sustainable progress by setting our sights high.



**CUSTOMERS**  
Earning Customers  
for Life



**VEHICLE SAFETY**  
Imagining Zero Injuries



**PRODUCTS**  
Advancing Zero  
Emissions Vehicles



**TALENT**  
Realizing Everyone's  
Potential



**ETHICS & GOVERNANCE**  
Full Transparency  
& Integrity – Always



**OPERATIONS**  
Positive Environmental  
& Social Impact



**SUPPLY CHAIN**  
Positive Environmental  
& Social Impact



**MOBILITY**  
Mobility for Everyone,  
Everywhere



**COMMUNITY**  
Safe, Smart & Sustainable  
Communities

# To Our Stakeholders



new mobility solutions that lead to a world with zero emissions, zero congestion and zero crashes.

At GM, we understand that the vehicles we make and the way we make them impact our environment and communities. We take this responsibility to heart. Today, we use less energy and water, generate less waste and emit less carbon to manufacture a vehicle than ever before. Our solar, landfill gas, hydro and waste-to-energy applications make us one of the largest industrial users of renewable energy in the world. Our focus on efficiency also extends to materials and logistics, where we continue to generate significant savings. These are wins for our business, customers and investors, and wins for the environment and communities that surround us.

## WE ARE FOCUSED ON LONG-TERM SUSTAINABILITY

At General Motors, we are working to create a company that all stakeholders value, people aspire to work for and communities are proud to embrace. We start with a clear understanding of our promise:

- We are committed to safety in everything we do.
- We earn customers for life.
- Our brands inspire passion and loyalty.
- We translate breakthrough technologies into vehicles and experiences that people love.
- We create sustainable solutions to improve the communities in which we live and work.

Environmental stewardship and sustainability are part of our business model and core to our operations. Social and technological changes are rewriting the rules of vehicle use and ownership, and I believe the auto industry is changing more today than it has in the last 50 years. This transformation gives GM an unprecedented opportunity to develop

### *Strategy & Governance*

At GM, we are executing a strategy that builds on the strength of our core business and leverages our technical expertise to lead the future of personal mobility. As always, we continue to put the customer at the center of everything we do. Our goal is to make GM the world's most valued automotive company, and we are making good progress, as evidenced by GM's record financial and operating performance and our strong outlook for 2017.

GM's Board of Directors are committed to overseeing our integration of environment, social and governance (ESG) principles throughout the company. This oversight includes an annual sustainability review by the Board and periodic reviews of ESG issues by the Board's Governance and Corporate Responsibility Committee. The Board is committed to elevating the company's leadership profile and reputation among investors, policymakers and others on ESG issues and practices, and believes GM has a unique opportunity and responsibility to address these important issues.

The Board has also modified GM's Short-Term Incentive Plan, beginning in 2017, to incorporate an individual performance component, which, for certain positions, will include sustainability measures. Linking total compensation to the achievement of these individual measures will increase focus on efficiency and performance across the business for our sustainability initiatives.

### ***Enhancing Life's Journey***

At GM, we are committed to our core values of customers, relationships and excellence. We act with integrity, take accountability for results, do what we say we are going to do and do the right thing, even when it is hard.

In 2016, we revamped our global philanthropy and corporate-giving strategy to better reflect and align our priorities as a responsible corporate citizen, specifically focusing on areas where we believe we can have a direct impact. Around the world, we now focus on expanding and improving science, technology, engineering and math (STEM) education, advancing vehicle and road safety and promoting economic empowerment in the communities where we live and work. For businesses to thrive, we know that communities must flourish.

GM Student Corps is an innovative summer internship program in which GM retirees and college students mentor high school students working on community-service projects in their own schools and neighborhoods. In 2016, GM Student Corps involved 130 students from Detroit-area high schools. Separately, through our employee volunteer program, more than 12,000 GM employees volunteered nearly 110,000 hours in 2016 with 148 different nonprofit organizations.

GM is an industry leader in using technology to solve big problems, improve the planet and enhance peoples' lives. In 2016, we achieved our 2020 commitment to generate 125 megawatts of clean energy four years ahead of schedule. Building on that success, we announced a plan to source all electrical power for our 350 facilities in 59 countries with renewable energy by 2050 – the only automaker to make such a commitment.

2016 also marked a record year for our landfill-free commitment. We added 23 new sites last year and now have a total of 152 landfill-free sites worldwide – more than any other automaker – including 100 manufacturing sites. This exceeds our 2020 landfill-free target – again, four years ahead of schedule.



2017 Chevrolet Cruze Hatchback.

We continue to pursue more landfill-free operations with the goal of becoming a zero-waste company.

We are also expanding our focus to embrace the circular economy and the opportunities it offers to drive broader social and economic benefits. One example is our water-bottle recycling effort in Michigan. Working with the city of Flint and six regional GM facilities, we collected more than four million used water bottles in 2016 and worked with local companies and organizations to recycle the bottles into insulating fleece used in coats for the homeless, air-filtration components for use at GM facilities and a noise-reducing fabric that covers the engine of our Chevrolet Equinox crossover.

### ***Building a Workplace of Choice***

When it comes to the sustainability of our workforce, we are investing in both our current and future employees. We want people to know that if they truly want to make the world a better place, they can make a real difference here.

From boardroom to dealer showroom, we are committed to building a dynamic and diverse team that shares a passion for solving the world's mobility challenges. And we're creating a culture, an energy and an attitude that says anything is possible.

Our team has changed rapidly in recent years. Today, 35 percent of our salaried employees have worked at the company less than four years. Many of our new hires come from the same sources that feed the global tech economy. In fact, our applications from Silicon Valley were up more than 100 percent in 2016. Around the world, GM job applications were up more than 24 percent last year.

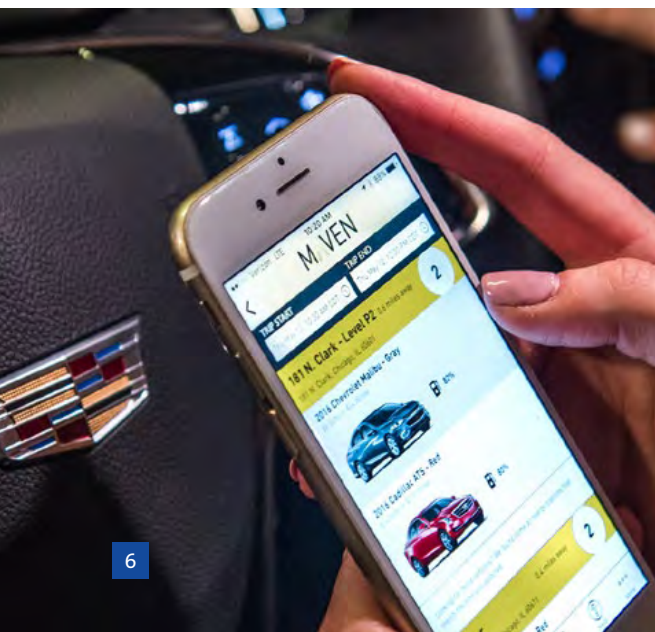
At GM, we recognize growing concerns around the world about the impact of globalization and technology on labor markets, and we are committed to helping our employees acquire and update the skills they need for success in today's economy.

In 2016, we introduced a new program at GM called Take 2, a series of 12-week internships for experienced technical professionals – primarily women – eager to relaunch their careers after being out of the workforce for two or more years. Participants receive technical training, professional development and personalized mentoring with GM leaders that prepares them to pursue opportunities in engineering, IT, finance, customer care and other critical functions in GM's global workforce. In the first year, we offered 85 percent of participants a full-time position, and had a 96 percent acceptance rate.

Around the world, we are dedicated to empowering a diverse and inclusive workplace that values the contributions of all employees. We know that a diverse workforce promotes fresh, innovative thinking that translates into a competitive advantage for GM and winning products for our customers.

Throughout the company, we offer collaborative workplaces and an enterprise-wide commitment to peoples' life choices. Nearly 3,000 employees took advantage of our tuition assistance programs in 2016, and nearly 800 more participated in our well-established technical and professional education programs. We also believe that fair and equitable

*Maven car-sharing expands to Chicago.*



pay is an essential element of any successful business model, and we were proud in 2016 to have signed the White House Equal Pay Pledge.

One way we measure engagement at GM is through a global biennial “Workplace of Choice” survey. Participation rates in our 2016 survey were at an all-time high, including 86 percent for salaried employees. Engagement levels for salaried employees improved 50 percent from 2012 to 2016, and overall employee engagement levels at GM (including hourly workers, who participated in the survey starting in 2016) are now significantly above the global average. Our goal is to be nothing less than a global best employer.

To win in tomorrow’s increasingly sophisticated auto industry, we also have a responsibility to help develop a pool of capable and highly educated potential employees. In 2016, GM filled a position in a STEM role every 26 minutes, and we expect our need for STEM graduates will only continue to grow in the years to come.

As part of preparing tomorrow’s workforce, we support a number of local, national and international efforts to advance STEM education, including FIRST Robotics, A World in Motion, Partners for the

Advancement of Collaborative Engineering Education (PACE) and a new organization we are very excited to support, Girls Who Code (GWC).

GWC is a U.S. non-profit committed to closing the technology gender gap. Research suggests that programs designed specifically to spark and maintain girls’ interest in STEM from middle school into the workforce could triple the number of women in computing in the next 10 years. Earlier this year, we provided an initial grant of \$250,000 to help expand GWC’s Clubs programs in underserved communities. These programs further GWC’s mission to promote computer science education for girls by providing free after-school activities in schools, universities and community centers.

#### ***Defining the Future of Personal Mobility***

Perhaps nothing GM is doing today is more important for society’s long-term future than leading the transformation of personal mobility.

GM is the industry leader in vehicle connectivity with more 4G-equipped models than the rest of the industry combined. In 2016, OnStar celebrated its 20th anniversary by surpassing 1.5 billion customer interactions, and the growth rate is astounding. It took 19 years to reach 1 billion customer interactions.





2017 Chevrolet Bolt EV.

Eighteen months later, we hit 1.5 billion, and the pace continues to accelerate.

Another area where we are changing the industry is alternative propulsion, especially electric vehicles. New battery technologies have helped us launch cars like the groundbreaking Chevrolet Bolt EV, which will also serve as our platform for future autonomous vehicle development.

Bolt EV is the world's first electric vehicle to combine long range with affordable pricing. Bolt EV gets an EPA-estimated 238 miles per charge at a price below \$30,000 after government incentives. Bolt EV is a tremendous opportunity for us – an outstanding zero-emissions car that is fun to drive, breaks new ground and puts our commitment to new technology in customers' hands.

In 2016, we also launched the new Chevrolet Malibu Hybrid, which gets an EPA-estimated city-highway fuel economy of 47 mpg, and ramped up production of the second-generation Chevrolet Volt, which offers a pure EV range of 53 miles and a gasoline equivalent of 106 mpg. Launching this year is the Cadillac CT6 Plug-In Hybrid, which achieves an EPA-estimated city-highway fuel economy equivalent of 62 mpg.

We are also working to develop new clean-energy technologies, such as hydrogen fuel cells that hold great potential for land, sea and air applications. A modified Chevrolet Colorado is being evaluated by the U.S. Army to determine whether fuel cells are a

viable propulsion system for military use. And in an industry first, GM and Honda have announced a joint venture to mass produce an advanced hydrogen fuel cell system beginning around 2020.

In other areas of the business, technology is becoming available that will make driving dramatically safer and more convenient. From active-safety features such as Adaptive Cruise Control and forward collision alerts to Super Cruise and fully self-driving vehicles, our engineers and technology experts are developing vehicles that meet or exceed the same strict standards for safety and quality that we've been building into traditional vehicles for generations.

Earlier this year, we became the first automaker to introduce advanced Vehicle-to-Vehicle (V2V) communications on the Cadillac CTS. V2V uses dedicated wireless communications to share information such as vehicle speed and direction. V2V is an important safety feature on its own, but it also lays the groundwork for a connected, safer future down the road.

Another advancement that will make driving safer and easier is Super Cruise, a highly automated driving technology from Cadillac that enables hands-free driving on the highway, even in stop-and-go traffic. Cadillac will introduce Super Cruise on the CT6 this fall.

Beyond Super Cruise, GM is aggressively advancing the development of autonomous vehicles. We believe this technology will fundamentally change the way vehicles are used, and because more than 90 percent of traffic accidents are due to human error, this technology will be a primary enabler for reducing traffic fatalities. We also think we can use this technology to make transportation available to many people without good transportation options today.

Last year, GM acquired San Francisco-based Cruise Automation, a leading Silicon Valley startup in autonomous technology. The Cruise team specializes in developing the software that drives



our autonomous vehicles and is responsible for the commercialization of our autonomous-vehicle business. We now have more than 50 autonomous test vehicles operating in San Francisco, Scottsdale and Metro Detroit, with plans to increase the fleet to hundreds of test vehicles by the end of 2017.

Right now, all of our autonomous test vehicles are accompanied by trainers who can assume control of the vehicle, if necessary. Not until we have assured both ourselves and the appropriate regulatory agencies that the system is safe will we remove the trainers.

Our first application of autonomous technology will be in ridesharing fleets in major cities, and we have been working with the appropriate government agencies to this end. These fleets will give many people the opportunity to experience this truly extraordinary technology.

A fourth area where we are breaking new ground is shared mobility. Last year, we launched our own car-sharing service called Maven, which we are scaling up quickly. Maven now operates a fleet of about 10,000 GM vehicles in 17 U.S. cities allowing customers to use a mobile app to locate and reserve a vehicle. Customers have already logged more than 130 million miles in Maven-branded GM vehicles. Recently, we launched Maven Gig, a car-sharing service featuring Chevrolet Bolt EVs that allows gig economy workers to access our award-winning electric vehicle for short durations to make deliveries or provide ride-sharing services.

In Los Angeles, Maven is collaborating with the city's Sustainable City pLAN to help create smart transportation options that enhance mobility, create jobs and ease parking and congestion. Maven is adding more than 100 Bolt EVs to its Los Angeles fleet, which will be capable of covering 250,000 all-electric miles per month.



2017 Chevrolet Cruze Hatchback.

This is a new business area for us – one that is allowing us to expand the transportation options we offer our customers, as well as improve our ability to innovate and iterate at the speed of today's leading technology companies.

### ***A Different Company***

After three years of record-setting operating performance and a series of bold and decisive actions, we have built strong momentum at GM. In 2017, we continue to accelerate. As always, we are putting the customer at the center of everything we do, as we continue to meet our commitments and deploy our resources to deliver the highest possible returns over the long term.

GM is a more profitable, more disciplined and more focused company. We are also more diverse, more responsive to the needs of our customers and more determined than ever to take our commitment to clean energy and climate resilience mainstream.

I see great opportunities at GM to build not just a better company, but a better world – by delivering transportation solutions that are safer and better, enhancing life's journey for people around the world.

By living our values and doing what we say we will do, I am confident we will achieve our goals for our customers and shareholders for years to come.

Respectfully,

**Mary Barra**  
Chairman & CEO  
June 1, 2017

# 2016 Key Achievements



## 238 Miles

That's the EPA-estimated range the new Chevy Bolt EV – the 2017 Motor Trend Car of the Year – can drive on a single charge. It's also affordable.



## 228K Metric Tons

The amount of potential carbon avoided in the atmosphere each year, thanks to our vehicle lightweighting initiatives. To date, 10 models have shed more than 3,600 pounds combined.

## 50+

Autonomous test vehicles are now driving on public roads in San Francisco, California and Scottsdale, Arizona.

## 100%

After reaching our 2020 renewable energy goal four years early, we have committed to meet all of our global facilities' electricity needs through renewable energy by 2050.

## 152 Sites

We now count 52 nonmanufacturing and 100 manufacturing landfill-free sites around the world, meaning we exceeded our 2020 landfill-free target four years early.

## 24%

Increase in number of global job applicants as a result of strengthened recruiting efforts.

## 40 Million

Cumulative miles were logged in the first year of our Maven personal mobility brand, which includes three products: Maven City, Maven Home and Express Drive.

## 100%\*

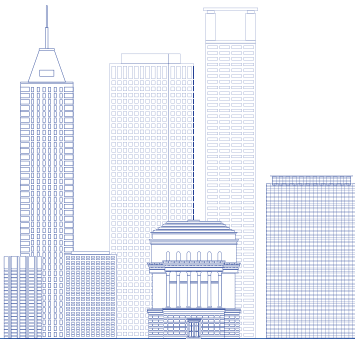
All GM salaried employees completed certification for our newly updated Code of Conduct, Winning With Integrity, which focuses on the hows and whys of ethical decision making.

Member of  
**Dow Jones Sustainability Indices**

In collaboration with RobecoSAM for the second consecutive year, GM was the only automaker on the North American Index of this leading global benchmark for corporate sustainability.

## \$250,000

Our grant to Girls Who Code will help encourage more U.S. middle and high school girls to pursue computer science related education, underscoring GM's commitment to science, technology, engineering and math (STEM) education.



\*Does not include Austria, due to local laws.

# GM At-A-Glance

## Our Purpose

### WHO WE ARE AND WHY WE ARE HERE



We earn customers for life



Our brands inspire passion and loyalty



We translate breakthrough technologies into vehicles and experiences that people love



We serve and improve the communities in which we live and work around the world



We are building the most valued automotive company

## Our Values

### CUSTOMERS

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

### RELATIONSHIPS

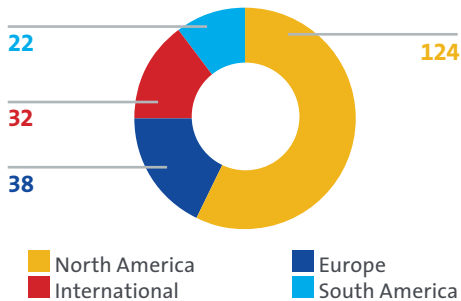
Our success depends on our relationships inside and outside the company. We encourage diverse thinking and collaboration from the world to create great customer experiences.

### EXCELLENCE

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

## People

2016 EMPLOYEES BY REGION\*  
(in thousands)

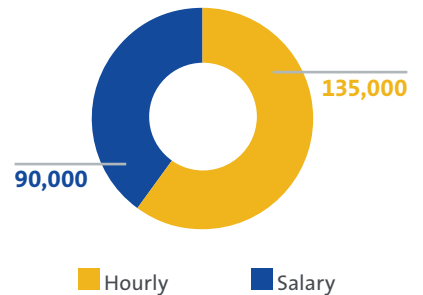


\* Excludes GM Financial

2016 TOTAL EMPLOYEES WORLDWIDE



EMPLOYEES BY TYPE



# GM At-A-Glance

## Brands

Chevrolet

Buick

GMC

Cadillac

Opel

Vauxhall

Holden

Baojun

Wuling

Jiefang

## Reach

**140+**  
Countries

## Market Share

**#1**  
North America

**#1**  
South America

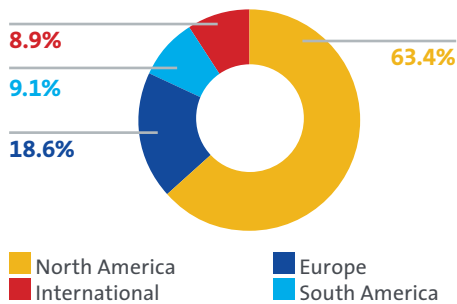
**#2**  
China

**#3**  
Asia, Middle East, Africa

**#8**  
Europe

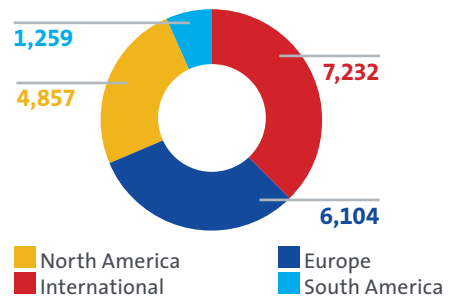
## Sales

2016 SALES BY REGION\*

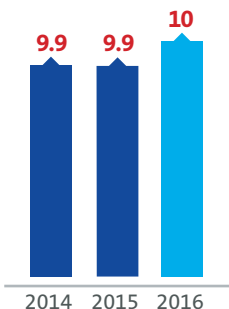


## Distribution

AUTHORIZED DEALERSHIPS BY REGION



2016 TOTAL SALES\*  
(millions of units)



U.S. SALES AS A PERCENTAGE OF INDUSTRY

**12.9%**  
Cars

**24.2%**  
Trucks

**15.0%**  
Crossovers

FLEET SALES AS A PERCENTAGE OF TOTAL GLOBAL SALES

**17.8%**

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

# North America

**Alan Batey**  
Executive Vice President  
& President  
GM North America



Sustainability is *everyone's* concern at GM North America (GMNA). This team is laser-focused on growing our business and earning customers for life... while, at the same time, ensuring that we truly respect and help sustain our world and environment.

It's all about being personally accountable for our actions and our success... driving for greatness... and working together to make it happen. That's the "north star" for GMNA.

Let's look at our recent results and our sustainability programs. I can honestly say that this team is not just here to compete... we are here to win! For example, GMNA contributed to another record-setting year for GM in sales and earnings. In 2016, we sold more than 3 million vehicles in North America, with our retail sales up nearly 2 percent. Our average transaction prices were the highest ever, growing faster than the industry average.

“  
*I can honestly say that this team is not just here to compete... we are here to win!*  
”



Bottom line, we've just come off of our best year in history. GM earned a record \$12.5 billion in 2016 before interest and taxes... on record revenue of \$166 billion. In North America, our 2016 EBIT-adjusted profit margin was above 10 percent for the second year in a row. We nearly doubled our EBIT in four years' time. And we are passionate to keep this momentum going in 2017 and beyond.

We have many great reasons to be optimistic and confident:

- Our best product lineup ever, with vehicles like Chevrolet Bolt EV. It's one of Car and Driver's "10 Best Cars for 2017," Green Car Journal's "2017 Green Car of The Year," the "2017 Motor Trend Car of the Year" and the "2017 North American Car of the Year."
- Our brands are strong and getting stronger. Chevrolet is the fastest-growing full-line brand in the industry. Every single GMC model sells for higher than the industry average transaction price. And our award totals from the industry have never been higher.

- In the latest J.D. Power Initial Quality and APEAL studies, GM had more segment winners than any other automaker. Buick came in first among mass market brands, and second overall, in the latest J.D. Power Customer Service Index. And Buick was one of only two brands in the industry last year to earn a NHTSA 5-star Overall Vehicle Safety Score for every model in its lineup.
- In its Annual Reliability Survey, Consumer Reports recommended 12 GM models... and Buick became the first domestic brand ever to be included in the survey's top three brands. IHS Markit recognized GM for the highest overall customer loyalty for the second consecutive year. And GM also had four of the top 10 vehicles in Kelley Blue Book's annual Best Resale Value Awards.
- In 2017 we will launch a number of key vehicles, including the 2018 Chevrolet Traverse and Equinox and the 2018 GMC Terrain, right in the heart of the red-hot crossover market. We'll also launch the Cadillac CT6 Plug-In Hybrid, which we expect to have fuel economy equivalent to at least 65 MPG and a total driving range of more than 400 miles.
- Whether recycling Flint water bottles into engine cover insulation or turning Mississippi River tires into air-deflecting baffles, GM is working with suppliers to advance a more circular economy where materials are kept in use.
- GM partnered with Herman Miller and Green Standards to repurpose surplus assets at three office facilities into \$1 million in-kind donations to Michigan-based nonprofits.
- More than 4,000 employees donated their time and talent to 200 community service projects in 11 U.S. states during our 5th annual teamGM Cares week. Overall in 2016, 12,000 GM employees volunteered nearly 110,000 hours at 674 separate projects with 148 different nonprofit organizations.
- GM made its largest renewable energy procurement to date, purchasing enough wind power to equal the electricity needs at 16 U.S. facilities, including offices, warehouses and a major assembly and stamping complex in Arlington, Texas.
- GM earned its fifth ENERGY STAR® Partner of the Year award for leadership in protecting the environment through superior energy efficiency.
- Seven of the 23 landfill-free facilities we achieved in 2016 are in North America. With our Toluca, Mexico foundry now on the list, none of GM's manufacturing operations in Mexico send waste to landfills.

Putting a high-tech hybrid like the CT6 Plug-In on the road... as well as vehicles like Chevrolet Volt and Bolt EV... speaks directly to GM's sustainability strategy, which extends to how we manufacture our products, power our facilities and help create resilient communities. Starting in Los Angeles, our mobility brand Maven is co-creating smart transportation options with cities to help enhance mobility, create jobs and ease parking congestion. We expect the collaboration to expose communities to transportation electrification, with more than 100 Bolt EVs available in Maven Los Angeles once fully deployed.

We're making great progress and our efforts are being recognized. For example, GM ranks on the Dow Jones Sustainability Index for automotive leadership. DJSI is the leading global benchmark for corporate sustainability. This is the second year GM has been selected... and we remain the only automaker on the North American index. Here are more ways we're reducing our environmental footprint and improving the communities where we live and work:

And frankly, these efforts are truly just the beginning. At GMNA, we will continue to explore even more innovative ways to run a sustainable business of which our customers, employees, partners and communities can be proud. We are confident about the future... yet we will continue to remain humble and hungry as we work together to win in the marketplace... and help sustain our world. The entire team at GM North America looks forward to a terrific 2017.

Sincerely,



**Alan Batey**  
Executive Vice President & President,  
GM North America

# How We Measure Progress: North America 2016

**\$119,022**

Net Sales  
(in millions)

**3,630**

Retail Vehicle Sales\*  
(vehicles in thousands)

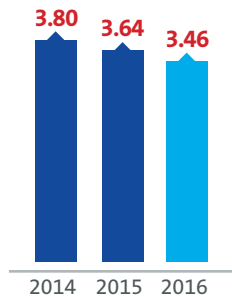
**4,857**

Dealerships

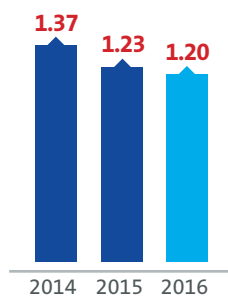
**124**

Employees  
(in thousands)

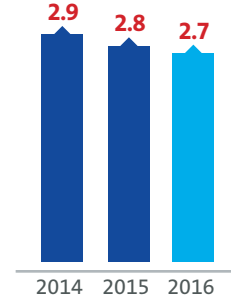
**ENERGY INTENSITY**  
(MWh/vehicle)



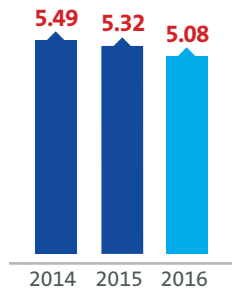
**CARBON INTENSITY**  
(metric tons/vehicle)



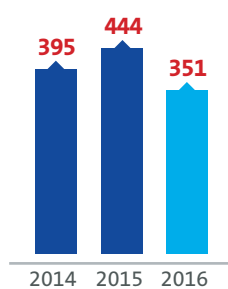
**VOC EMISSIONS**  
(kg/vehicle)



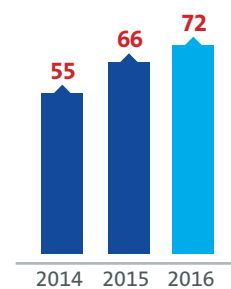
**WATER INTENSITY**  
(M3/vehicle)



**WASTE**  
(kg/vehicle)



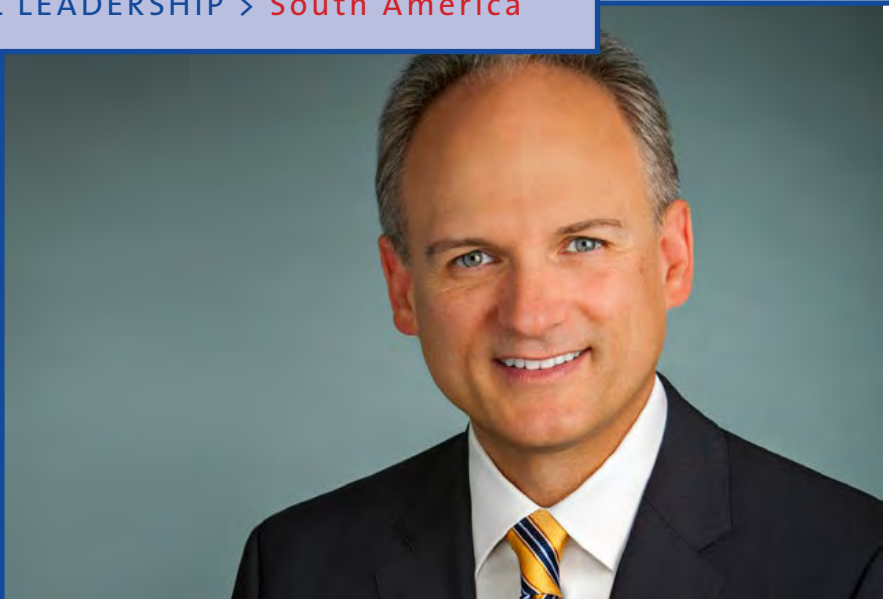
**LANDFILL-FREE SITES**



\* As reported in 2016 10-K

# South America

**Barry Engle**  
Executive Vice President  
& President  
GM South America



2016 has been one of the most challenging years for the automotive industry in South America. These challenges have helped us to strengthen the value of our brand, increase our competitiveness with ingenuity and continue to achieve our sustainability goals.

Our commitment to sustainability remains at the core of our operations. Now more than ever, it is key for us to leave a better world for future generations. With this purpose in mind, we have once more been able to achieve sustainability certifications that show us that we are moving in the right direction.

## **Environmental**

**ISO 50.001 Certification:** São Caetano do Sul plant in Brazil was awarded with this recognition for its energy systems.

**Wildlife Habitat Council Recognition:** Awarded to the Bogota plant in Colombia for its environmental conservation and education efforts.

**Landfill Free Certificate:** Granted to São Caetano do Sul in Brazil, and Quito and Sangolqui plants in Ecuador.

## **Social**

**Science, Technology, Engineering and Math (STEM) Programs in Brazil:** These programs encourage economic empowerment with broad effects in the next generation. Through the mentoring program,



young students from the communities surrounding GM facilities were mentored by GM employees, helping them to develop their future and careers.

**UNICEF Partnership in Argentina:** The initiatives “La Carrera por la Educación” and “Sonrisas sobre Ruedas” have generated a strong positive impact

“  
*Our commitment to sustainability remains at the core of our operations. Now more than ever, it is key for us to leave a better world for future generations.*  
”





Our UNICEF partnership in Argentina has generated a strong positive impact.

in rural communities across Argentina by allowing hundreds of young people to finish high school through the use of new technologies. Both programs involve the participation of Chevrolet's dealer network and their customers across the country.

**Life Project in Colombia:** This program, which provides technical training in trades linked to the automotive industry, has reached 2,180 girls and boys during 2016 and is helping reduce their exposure to violence, a very important issue in Colombia.

**Technology and Innovation Leaders**

Our corporate responsibility is also reflected in our commitment to reduce our industry's environmental footprint, while meeting our customer's expectations through innovative technologies related to fuel efficiency, urban mobility and connectivity.

Technologies like OnStar and the second generation of MyLink, developed by GM and offered in most countries across the region, are changing the face of urban mobility and creating more conscious drivers by providing them with smarter choices on their daily routes. OnStar has already benefited more than 400,000 connected customers in Argentina and Brazil.

The Colombian Chevrolet Foundation has become the recognized leader in urban mobility at Bogotá and is pioneering this initiative in five other Colombian cities.

**The Customer Is Always at the Center of What We Do**

At GM South America, we put the customer at the center of everything we do. With this principle in mind, we have launched an excellent product portfolio with new technologies and greater fuel efficiency that includes 12 new models in Brazil, 10 in Argentina, 12 in Chile, 6 in Uruguay, 3 in Peru and another 20 vehicles in other countries in South America. We continue to develop our talents, strengthen our dealer network and work very closely with our suppliers. All this hard work has allowed us to keep our sales leadership for the 16th consecutive year across South America, with the Chevrolet Onix as the best-selling car in the region for the third consecutive year.

Once more, our satisfaction surveys demonstrate that customers recognize our efforts. In many countries, more than 86 percent of customers were completely satisfied with their purchasing and after-sales service experiences – record results for the region. For the first time in Brazil, the satisfaction rate with our services was higher than ever, 87 percent. This result confirms that our customer-based strategy is on the right track.

**Final Thoughts**

At GM South America, we are focused on providing our customers the best, safest and highest-quality products. We are more committed than ever to them, our surrounding communities, the environment and the development of the region. We at GM continue to deliver passion with smarter and more inventive products that keep us moving forward and improving our customers' lives.

**Barry Engle**  
Executive Vice President & President,  
GM South America

# How We Measure Progress: South America 2016

**\$7,223**

Net Sales  
(in millions)

**584**

Retail Vehicle Sales\*  
(vehicles in thousands)

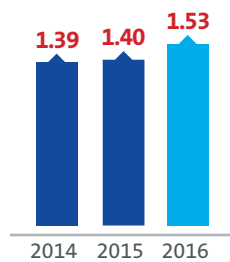
**1,259**

Dealerships

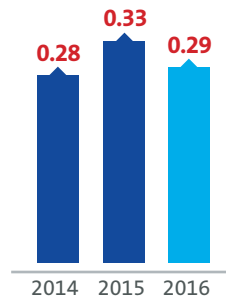
**22**

Employees  
(in thousands)

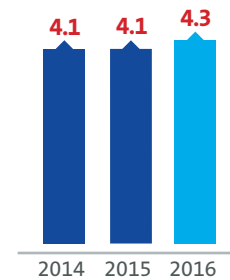
**ENERGY INTENSITY\*\***  
(MWh/vehicle)



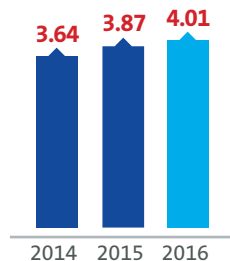
**CARBON INTENSITY\*\***  
(metric tons/vehicle)



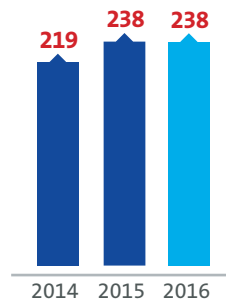
**VOC EMISSIONS\*\***  
(kg/vehicle)



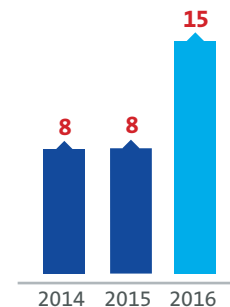
**WATER INTENSITY**  
(M3/vehicle)



**WASTE**  
(kg/vehicle)



**LANDFILL-FREE SITES**



\* As reported in 2016 10-K

\*\* Intensity performance has been impacted negatively by lower sales volume.

# Europe

**Karl-Thomas Neumann**  
Executive Vice President  
& President, GM Europe



For Opel/Vauxhall 2016 was a year of substantial progress in terms of sustainable mobility. At the Paris Motor Show in September, we presented the Ampera-e – a groundbreaking pure battery electric vehicle and a major step in making the vision of emissions-free transportation reality.

With our Ampera-e, with its 520km range (based on the NEDC test-cycle), we are revolutionizing electric mobility, and by bringing it to market, leading one of the major industry trends. Ampera-e sales began in Norway in November 2016 and sold out almost immediately, and launches in other European markets will follow in 2017 and 2018. But to make the vision of zero-emission transportation reality, we need more electric vehicles and we are convinced that the future of mobility is electric.

Car makers, however, have to deal with other disruptive changes, which is why we are transforming ourselves into a provider of innovative and connected mobility services. We believe the convergence of e-mobility,



connectivity, ridesharing and autonomous vehicles will shape the future of personal mobility, challenging the traditional automotive industry and presenting new opportunities.

Therefore, expanding the portfolio from vehicles to mobility services is an important element of Opel/Vauxhall's future. One important factor is our personal online and service assistant, OnStar. OnStar continues to go from strength to strength and has recorded more than 5.5 million customer interactions in Europe since its launch in 2015. In 2016, we expanded into 18 new markets and picked up several industry and technology awards including Auto Bild Allrad's "Connectivity Award," the Spanish "Innovation Award, for Road Safety" and the UK "Car Tech Awards" where our Astra won "Tech Car of the Year" for "Best Safety Innovation" for OnStar.

The geopolitical environment in 2016 was challenging too. If not for the decision of the UK to leave the European Union and the subsequent

“

*For Opel/Vauxhall 2016 was a year of substantial progress in terms of sustainable mobility.*

”

effect it had on the value of the pound vs. the Euro and the uncertainty it created in the vehicle market, we would have delivered our goal of breaking even in 2016. However, we still increased sales in 18 of 22 markets in Europe to a total of 1.16 million vehicles – the highest since 2011 and 4 percent (46,000 units) up compared to 2015. The best-selling model was European Car of the Year – the new Astra with over 285,000 registrations – 25 percent higher than in 2015 and importantly at a transaction price 26 percent higher than the previous Astra.

The Astra is an important chapter in the biggest model offensive in the history of Opel/Vauxhall, with 29 models from 2016 to 2020. And 2017 will see seven new vehicles in one year, hence our “7 in 17” motto. Among them is the second generation of our flagship, the Insignia, and we will also expand our SUV/CUV portfolio with the Crossland X and the Grandland X into two fast-growing segments.

2016 also saw Opel/Vauxhall sites achieve some significant milestones. The 750,000th Vivaro rolled off the production line in Luton, and the plant in Kaiserslautern and the Dudenhofen test center celebrated their 50th birthdays by opening their doors to the public, showcasing the tremendous contribution they have made, and continue to make, to their local communities.

The new €210 million Global Propulsion Systems Center in Rüsselsheim was opened in October and will house more than 800 engineers and technicians developing the propulsion systems of the future, and work started on the new €60 million distribution center in Bochum that will create 700 jobs in the area when fully operational.

Being a responsible, engaged and respectful corporate citizen in the communities and countries where we live and work remains a fundamental part of our corporate culture.

We strive to act responsibly beyond Opel’s borders, and we are proudly spearheading the “InCharge for the next generation” initiative. It was founded in 2014 to support ambitious young people, regardless of their origin, facing youth unemployment and the worsening refugee crisis. One hundred Opel employees in Germany volunteered to act as mentors for refugees within the InCharge program to help integrate them into the job market.

From an environmental management perspective, we take responsibility for the impact we have on our local communities and the planet in general. That’s why I’m immensely proud that Europe became the first GM region where all manufacturing facilities were accredited as landfill-free. Both UK plants also gained environmental recognition from the Green Organisation, with Luton recognised at the Green Apple awards for Environmental Best Practice. Ellesmere Port not only achieved World Ambassador Status but also won the Bronze Award for Conservation/Wildlife Projects at the Green World Awards for the Environment in South Korea – the first global environment award GM has ever received. As we move forward, attention to environmentally friendly approaches, solutions and products will remain a top priority for us throughout Europe.

We are not only addressing the significant issues currently facing Europe and the car industry, we are also producing in an ever more environmentally friendly manner. And, of course, we are improving our products for our customers who want cars and vans that are beautifully designed, safe and efficient.



**Karl-Thomas Neumann**  
Executive Vice President & President,  
GM Europe

# How We Measure Progress: Europe 2016

**\$18,707**

Net Sales  
(in millions)

**1,207**

Retail Vehicle Sales\*  
(vehicles in thousands)

**6,104**

Dealerships

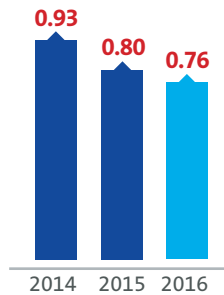
**38**

Employees  
(in thousands)

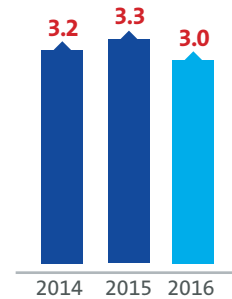
**ENERGY INTENSITY**  
(MWh/vehicle)



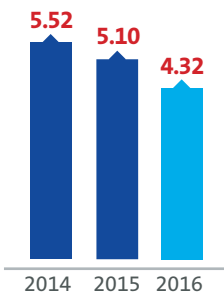
**CARBON INTENSITY**  
(metric tons/vehicle)



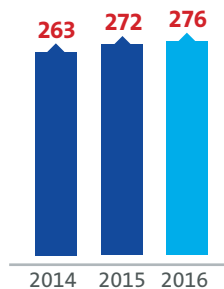
**VOC EMISSIONS**  
(kg/vehicle)



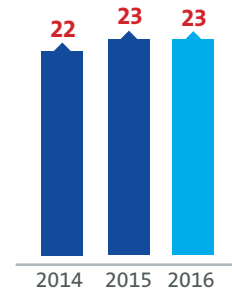
**WATER INTENSITY**  
(M3/vehicle)



**WASTE**  
(kg/vehicle)



**LANDFILL-FREE SITES**



\* As reported in 2016 10-K

# International

**Stefan Jacoby**  
Executive Vice President  
& President,  
GM International



The automotive industry is changing like never before, especially in GM International (GMI) – a diverse region that includes a mix of mature and emerging markets across Asia Pacific and Africa.

Last year, GMI markets had 24 new launches under our strong portfolio of brands that include Chevrolet, Cadillac, GMC, Holden and Opel. Among the new introductions were the Colorado pickup, Trailblazer SUV and Astra family. These world-class products received an enthusiastic response from consumers and media. They helped GMI build positive momentum and generate sales of 673,000 vehicles.

Many of our products feature the latest technology, such as the Chevrolet MyLink infotainment system. GM was one of the first automakers in the region to introduce vehicles that support Apple CarPlay and Android Auto for a connected experience.

Our vehicles are sold by dealers that are committed to offering the best customer experience through Chevrolet Complete Care and similar programs for our other brands. Connection Centers at our dealers are helping customers learn about the technology in their vehicles. We present the I CARE Culture Award to dealers and employees for putting the customer at the center of everything they do.

We are keeping up the momentum in 2017, with 26 new launches planned across our markets. They include next-generation products such as



the Chevrolet Bolt EV. With a lineup that already includes the all-new Volt extended range electric vehicle and Malibu Hybrid, we are bringing GM's leadership in electrification to Korea. Launch excellence remains a high priority for all of our products.

Creating an inclusive and diverse workplace is also a priority for GMI. We have found that when we hire and develop a diverse range of people, creativity is boosted, while morale improves and employees work more efficiently. A great example is Thailand, where women account for 37 percent of our leadership team.

“  
*Our vehicles are sold by dealers that are committed to offering the best customer experience through Chevrolet Complete Care and similar programs for our other brands.*  
”



*“Promoting diversity is not just about gender,” explains Stefan Jacoby. “It is about valuing all ideas and building teams with different backgrounds and experiences.”*

GMI gives back to the communities in which we do business. We believe this helps build stronger brands. We are focused on driving a better tomorrow – one that is safer, smarter and healthier – for our customers, our stakeholders and our employees.

***Here are just a few of GMI’s contributions in 2016:***

In the area of **safety**, GM Holden supported the Australasian Rescue Challenge 2016, donating 70 vehicles to hone the emergency response skills of road rescue workers from Australia, New Zealand and Hong Kong. Our team in India promoted safety awareness among bus drivers and among consumers during the monsoon season through the Drive with Care initiative. In Egypt, we shared the safety message with the sales force from our distributor Al-Mansour Automotive. And in Indonesia, we educated children about proper safety behavior through the Safety with Chevrolet campaign. Safety remains our overriding priority in GMI, with a number of additional actions planned in 2017.

To help create a **smarter** community, our GM India headquarters team has been a long-time supporter of the Sankalp School for disadvantaged students. Our teams in Vietnam and Thailand donated vehicles and powertrains to educational institutions for training purposes, and GM Korea hosted the Korea Auto Science Camp for the 12th year.

To help build a **healthier** community, our teams across GMI again supported One World Play Project by donating thousands of nearly indestructible footballs to disadvantaged communities. GM South Africa in collaboration with the Dreamfields Project sponsored a football festival. Our teams also celebrated 2016 World Environment Day, with more than 55 activities held in GMI and GM China involving the active participation of more than 5,000 employees and the support of more than 1,000 members of the community. In Australia, the 10-year Holden Home Ground Advantage continued helping sports clubs upgrade their facilities.

One thing many of these programs had in common was the support of our employees and partners. For example, our Chevrolet dealers helped rebuild schools in Cebu, Philippines, impacted by Typhoon Haiyan, while members of the GM Korea Supplier Association donated school supplies, books and clothing to students in the area. GM Powertrain-Uzbekistan employees helped clean up the Tashkent Botanical Garden and GM South Africa employees celebrated Mandela Day by engaging in educational initiatives at a primary school and once again participating in the local Community Chest’s annual Winter Woolly Week campaign.

GMI markets represent an opportunity for ongoing growth as both GM and the automotive industry carry on their exciting transformation. Our company and our employees will continue doing our part to make a difference.

**Stefan Jacoby**  
GM Executive Vice President & President,  
GM International

# How We Measure Progress: International 2016

**\$11,749**  
Net Sales  
(in millions)

**4,587**  
Retail Vehicle Sales\*  
(vehicles in thousands)

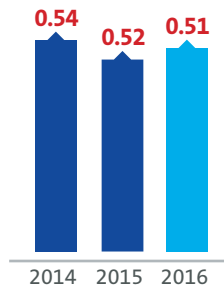
**7,232**  
Dealerships

**32**  
Employees  
(in thousands)

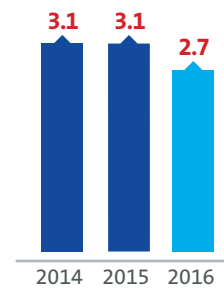
**ENERGY INTENSITY**  
(MWh/vehicle)



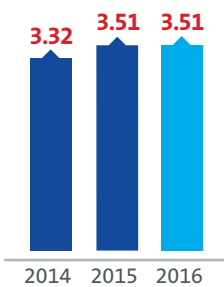
**CARBON INTENSITY**  
(metric tons/vehicle)



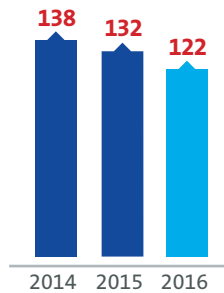
**VOC EMISSIONS**  
(kg/vehicle)



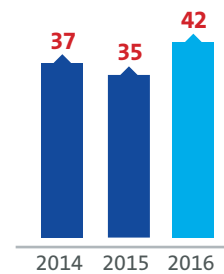
**WATER INTENSITY**  
(M3/vehicle)



**WASTE**  
(kg/vehicle)



**LANDFILL-FREE SITES**



\* As reported in 2016 10-K



# China

**Matt Tsien**  
Executive Vice President  
& President, GM China



China is among the most important markets for the world’s automakers. It is also the largest market for General Motors. In 2016, GM had record deliveries of 3.87 million vehicles in China.

GM China’s vision is to be the most valued automotive company in China with our partners. The core values of customers, relationships and excellence serve as the foundation.

Our vision has five integral pillars: enable our joint ventures’ success; strengthen GM’s corporate image in China; drive GM’s long-term strategy in China; ensure an effective “China voice” within GM globally; and manage relationships with GM’s stakeholders and partners in China. Our focus on sustainability and corporate social responsibility directly supports these pillars.

Sustainability is a key word for the automotive industry in growth markets such as China. In 2016, GM introduced our electrification road map in China. It includes accelerating the launch



of electrified vehicles and fully localizing battery packs for new energy vehicles.

GM and our joint ventures are in the process of rolling out more than 10 new energy vehicles through 2020. They include the Buick LaCrosse Hybrid Electric Vehicle, Chevrolet Malibu XL Hybrid and Cadillac CT6 Plug-In – all of which debuted in China in 2016.

In line with our company’s global focus, GM announced investment in Yi Wei Xing (Beijing) Technology Co., Ltd., a leading domestic car-sharing technology solution provider, to explore personal mobility in China. We also continued the EN-V 2.0 pilot project at Shanghai Jiao Tong University, as 16 Chevrolet EN-V 2.0 electric concept vehicles generated more than 2,700 rentals per month among students and faculty in 2016. And through GM’s one-year employee carpooling pilot in Shanghai, more than 300 staff shared over 1,000 rides with their colleagues, covering about 33,000 km.

“

*GM China’s vision is to be the most valued automotive company in China with our partners.*

”

GM also shared our global advances in connectivity. In 2016, GM demonstrated for the first time in China our latest version of connected vehicle (V2X) technology as well as eight safety applications for the latest intelligent and connected vehicle (ICV) technology. GM and our partners also demonstrated the interoperability of China V2X application layer standard for the first time.

The focus on sustainability extends to our facilities. Our SAIC-GM joint venture's state-of-the-art Cadillac plant in Shanghai, which opened in January 2016, represents a "green" benchmark for vehicle manufacturing globally. The plant's paint shop is nearly 300 percent cleaner than conventional paint shops, while its general assembly shop features technology that substantially increases exhaust collection.

We have also gotten our suppliers involved. The eight suppliers in GM China's yearlong Green Supply Chain project generated a combined reduction of carbon dioxide of over 5.5 million kg and had annual savings of more than RMB 9.3 million. The success of the initial project inspired GM to continue the program in 2017 with 16 suppliers.

GM China cooperated with Safe Kids Worldwide for the third consecutive year. With the goal of reducing vehicle-related child injuries and raising public awareness of the need to protect children inside and around vehicles, the 2016 Safe Kids Safe Ride program reached out to over 1,000 children in eight cities.

To help celebrate National Traffic Safety Day, GM joined Safe Kids and the Shanghai Traffic Police Corp to produce the "Look Before You Exit" safety awareness video, which was shown on popular social media and large outdoor screens in high-traffic commercial districts of Shanghai.



As part of our commitment to education, GM China sponsored the China Development Research Foundation Village Kindergarten project, which touched the lives of 383 disadvantaged children in western China's Qinghai province. GM was named Best Company of the Year at the 2016 China CSR Education Awards for its support of the Partners for the Advancement of Collaborative Engineering Education (PACE) program, which has trained thousands of Chinese university students to become automotive industry professionals.

Our employees were actively involved in many of our activities, from volunteering their time to support the Safe Kids Safe Ride program to participating in the cleanup of the Shanghai Chongming Dongtan National Nature Reserve to supporting the purchase of winter clothes, school supplies, books and toys for migrant schoolchildren.

GM China and our employees will continue supporting sustainable development and corporate social responsibility to help ensure a bright future for our company and industry in China.

*The success of GM China's initial Green Supply Chain project inspired GM to double the number of participating suppliers in 2017.*

A handwritten signature in black ink that reads "Matthew Tsien". The signature is fluid and cursive, written in a professional style.

**Matt Tsien**  
Executive Vice President & President,  
GM China

*We operate through joint ventures in China therefore do not have separate performance data reported for China.*

## Q&amp;A

Moving Forward with  
David Tulauskas, Director  
of Global Sustainability

**Q** How did GM help move the automotive industry forward in 2016 amidst continuing dramatic change?

**A** The past 12 months have been a period of extraordinary progress for our business. Our personal mobility brand, Maven, has seen explosive growth in its first year and is already in 17 cities. We also acquired Cruise Automation to accelerate our development of autonomous vehicles and by early 2017 were producing the next generation of autonomous test vehicles.

Within our operations, we achieved our renewable energy commitment four years early and committed to meet 100 percent of our electrical power needs through renewable energy by 2050. Similarly, we saw a record number of facilities achieve landfill-free certification and met our landfill-free target four years ahead of schedule. On the community side, we introduced a new social impact strategy and announced a major STEM partnership with Girls Who Code. All of this speaks not only to how we're moving the industry forward, but demonstrates our progress integrating sustainability into every aspect of our business.



**Q** Are you seeing that convergence in other aspects of your work?

**A** Absolutely, both inside and outside of GM. 2016 seemed to be the tipping point for a company's ESG performance to become a mainstream input for financial analysis. When we began publishing a sustainability report six years ago, we anticipated that investors and the financial community would soon be using it. Now, it's clearer than ever that ESG issues matter to investors and shareholders. Even the credit agencies are starting to use ESG data.

**David Tulauskas**  
Director,  
GM Sustainability

**Q** How has the growing interest from the investment community influenced your reporting?

**A** They definitely influence what we disclose. We're committed to operating in a transparent manner, and feedback gained during engagements with the investor community help us continually improve how and what we disclose. For example, this year's report includes a policy section, where for the first time we're making many policies, such as our environmental, anti-retaliation and human rights policies, publicly available. I think it's fair to say that this year's report includes our most robust supply chain discussion to date.

them simple and straightforward, and hopefully they communicate how we're transforming transportation. While our aspirations may seem simple, each one has years of work and thoughtful discussion and debate behind it. We believe that describing our vision in this way will help us better influence others to align with it.

**Q** One of GM's aspirations is to have a positive environmental and social impact. What does that mean, and what's on your mind as you work toward that aspiration?

**A** For the past five years, our sustainability strategy has focused on ensuring we have the right foundation within the company, including public-facing commitments, disclosure and transparency, stakeholder engagement and aggressive continuous improvement. That foundation has been built. Now, we're evolving from continuous improvement to trying to figure out how to get to zero and beyond. We also believe that in order for businesses to thrive, the communities in which they operate must flourish. That belief continues to be a sort of North Star for us as a company in terms of sustainability.

**Q** GM has already met several of its 2020 commitments. What accounts for these achievements, and where do you see the company going from here?

**A** The baseline for our 2020 manufacturing commitments is 2010. We've learned a lot since we've been working toward our commitments. Certainly, one could draw a conclusion that perhaps the targets were not aggressive enough. The biggest factor that we underestimated was the extent to which these commitments engaged our employees and how rapidly that accelerated our progress. As we gained efficiencies at each step, their motivation grew and moved us forward at an even greater pace.



Employees at GM Egypt plant trees for World Environment Day.

**Q** What's the driver behind the ambitious aspirations that you've outlined in this year's report?

**A** We want people to understand where we want to go in the long run, why we think we need to go there, and what we're doing today to set us in the right direction. We've kept

There have been rapid changes externally as well. In the area of renewable energy, for example, we had bullish expectations for several markets, including China, that have not materialized as quickly as expected. On the other hand, we underestimated the growth of renewable energy in the U.S. and Mexico. Between 2014 and 2015, there was a massive tipping point on cost, interoperability and other things that were holding renewables back. Suddenly, our 2020 goal was in sight, and that gave us the confidence to up the ante to a 100 percent renewable energy by 2050.



**Q** Are the dynamics similar in waste, another area where you've already met the initial commitment and subsequently increased it?

**A** The dynamics are somewhat similar, but the employee engagement factor was even greater as employees have become really motivated to achieve landfill-free manufacturing sites. Teams have banded together to tackle the goal for their plant, and when they get the certification, it's a great source of pride. It builds from facility to facility, and that kind of enthusiasm and engagement is unstoppable.

**Q** Is GM working toward science-based targets?

**A** We kicked off work on science-based targets in 2016. Partnering with a global NGO and other experts, we've created an internal cross-functional working team to interact and support this work, which we expect to conclude in 2017. When it comes to our Scope 1 and Scope 2 emissions, our energy intensity goals and 100 percent renewable target have positioned us well.

**Q** What about targets for Scope 3 emissions, which your current product commitments address?

**A** The difference between our manufacturing and product commitments is sphere of influence. For the most part, we control our manufacturing facilities and have complete

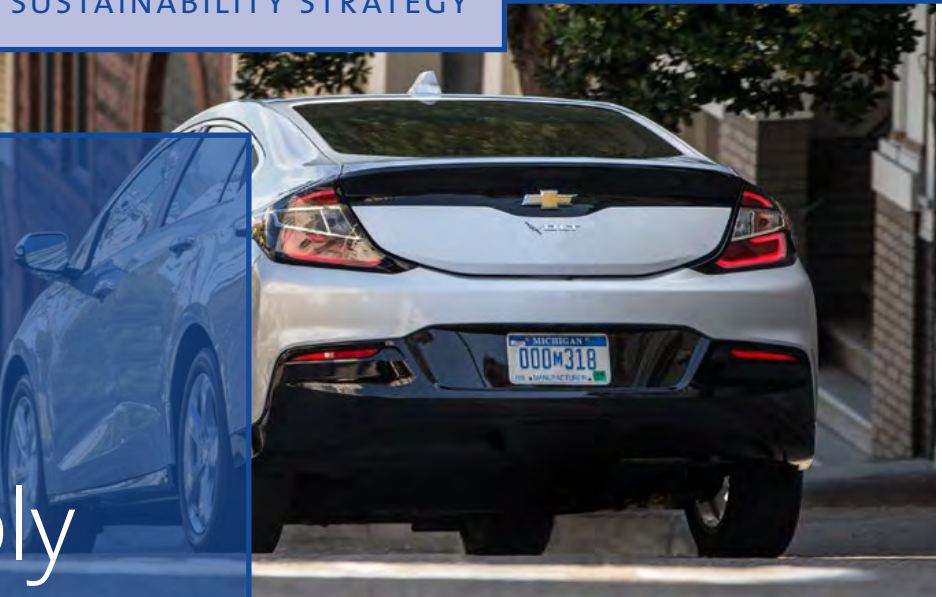
accountability for the commitments associated with them. Product commitments are really dependent upon a lot of variables outside our control, such as regulation, the price of gasoline and consumer preferences. So that's a great lesson for us to have learned about understanding boundaries around commitments, and we'll be applying those learnings in the future.

**Q** The automotive industry is undergoing massive changes. How do you make pledges you can stick to in a time of rapid disruption?

**A** It's true that the industry is changing dramatically, and GM is both responding to and driving this transformation. The implications for the evolving personal mobility landscape are mind-boggling, and there are even more rapid changes to come. We're aligning these new developments with our aspirations by keeping our values in mind. If implemented properly, these changes have the potential to solve major societal problems, like eliminating traffic accidents and injuries, reducing congestion and helping the environment. For now, we're working on all fronts – educating consumers, working with policymakers and leading in technology innovation – to ensure that transformation is as positive and impactful as possible.

*General Motors is turning its employees' empty water bottles into noise-reducing fabric insulation that covers the Chevrolet Equinox engine.*

# How GM Moves Forward, Sustainably



2017 Chevrolet Volt

We deliver personal mobility solutions that enhance our customers' lives and help move the automotive industry forward. Our stakeholders – including customers, employees, investors, shareholders, dealers, suppliers and the communities in which we operate – expect us to deliver these solutions while addressing transportation-related societal issues, such as congestion, air pollution and safety.

We are developing solutions during a period of a significant change in the automotive industry. In fact, our industry is currently undergoing more change 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. Against this backdrop, we have a generational opportunity to create products, offer services and advocate for policy that looks at transportation as a system and mobility as a service to create a world where sustainable transportation is a reality for daily life and enables communities to grow more prosperous and livable.

## **Customer-Driven Sustainability**

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 outcomes ultimately translate into value for our customers.

We integrate sustainability into our business through GM's five corporate strategic priorities, using business levers such as technology, corporate governance and operational excellence. This process, illustrated in the graphic on page 31, 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.



■ Material\* impacts that we report

■ Internal levers to embed sustainability in our business

■ Strategic business priorities to drive growth and efficiencies

**Business Value Creation and Integration**

We measure value creation through sustainability in three primary ways:

- Top-line growth opportunities, such as vehicle purchases by conscientious consumers who want to do business with a company viewed as environmentally and socially responsible, new business models based on emerging urban mobility trends, and new revenue streams from proactive waste management activity.
- Bottom-line improvements realized by taking a systemic approach to our operations, supply chain and business processes that eliminate cost, drive efficiency and increase productivity.

- Risk mitigation, when matters of reputational integrity are involved or where we anticipate potential operational disruptions due to resource scarcity, such as the use of rare earth minerals.

We aspire to serve customers and improve communities with a positive impact mindset. Our work is 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.

\*See page 169 for footnote regarding material.



# Moving Forward Through Collaboration

Our success depends on relationships inside and outside the company. This core value drives engagement with our stakeholders who we have identified as customers, both individual and fleet; investors and analysts; employees, both current and potential new talent; suppliers, Tier I and beyond; dealers and dealer councils; communities in which we operate; governments at the national, state/provincial and local levels; and environmental and social 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, as well as to advance social and environmental goals. Forms of engagement include, but are not limited to, quantitative consumer research studies, employee focus groups, congressional testimony, blog posts and community meetings.

During 2016, we continued to see increased interest in environmental, social and governance (ESG) performance among investors, and the number of meetings on ESG issues with investors continues to increase.

### ***External Stakeholder Advisory Group***

A critical part of our strategy is regular engagement with an external sustainability stakeholder advisory group that is coordinated through Ceres, a nonprofit organization advocating for corporate sustainability leadership. This group, now in its seventh year, consists of NGOs, socially conscious investors, a peer company, fleet customer and a supplier, to help guide our strategy and focus, as well as to provide informed feedback about opportunities and challenges.

The group meets twice each year and a shorter meeting is held during the annual Ceres conference. In-person meetings are usually held at a GM facility. During our day-long session in 2016, the group met at our Washington, D.C. office to hear briefings from GM Public Policy staff, review the results of GM's most recent global materiality assessment, discuss future GM goals and commitments, and to receive briefings on fuel efficiency initiatives, fuel economy regulation, electric vehicle marketing, personal mobility services, community giving strategy and supplier code of conduct, among other issues. In addition, each member of this group possesses unique qualifications and backgrounds that we call upon for counsel on specific issues, such as supply chain transparency, human rights or policy transparency.



## Strategic Relationships

Another key outcome of our work with Ceres has been to be 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 policymakers to address climate change by promoting clean energy, boosting efficiency and limiting carbon emissions.



GM also was one of the initial 13 companies to sign the American Business Act on Climate Pledge, calling for a strong outcome in advance of the Paris climate conference, COP21. Companies who signed the act also pledged to reduce emissions, increase low-carbon investments, deploy more clean energy and build more sustainable businesses.

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) that provide guidance on a range of issues, such as renewable energy, climate change, water risk management, environmental education and sustainable transportation. We have partnered, for example, with WRI, the Global Environment & Technology Foundation and Dow to conduct a water risk workshop for internal and external stakeholders.

Last year, two of the renewable energy leadership groups GM helped establish, WWF and WRI's Renewable Energy Buyers' Principles, and Rocky Mountain Institute's Business Renewables Center (BRC), brought their expertise into a new group, the Renewable Energy Buyers Alliance (REBA). This new consortium builds on the activities of REBA and BRC to identify barriers to buying renewable energy and develop solutions to meet rapidly growing corporate demand.

When we set our new 100 percent renewable energy goal, we also joined RE100, a global collaborative initiative backed by The Climate Group in partnership with CDP. RE100 brings together the companies that have made 100 percent renewable energy commitments to share best practices and demonstrate the increased demand for clean power. GM is one of only three automakers who made the RE100 pledge, and the only North American automaker in the initiative.

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. And, we 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.



# Reporting Practices

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

### ***Sustainability Reporting***

Our previous report covered calendar year 2015 and was published in May 2016. The editorial content of this report, the 2016 Sustainability Report, generally covers subject matter for calendar year 2016 and some of 2017 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 related to GM manufacturing and product commitments, as well as workforce and financial data, refer to the calendar year ended Dec. 31, 2016. This report has been prepared in accordance with the "core" guidelines of Global Reporting Initiative (GRI) Standards. As a participant in GRI's Standards Pioneers Program, GM is proud to be among the first organizations to adopt the GRI Standards.

### ***Assurance***

For 2016, GHD conducted an independent review for limited assurance on waste, water, carbon and energy data for global facilities. See page 168 for GHD's full statement of assurance. Due to limited assurance on most material data streams within the report, this review only involves operational management. Neither the GM Board of Directors nor senior management is involved in seeking assurance for the report.

### ***Materiality Survey***

Our sustainability strategy and the content of this report are based on the results of a 2016 global materiality assessment, a process we undertake every two years. The use of "material" or "materiality" in this report is not related to or intended to convey matters or facts that could be deemed "material" to a reasonable investor as referred to under U.S. securities laws or similar requirements of other jurisdictions.

A third party, Sustainalytics, conducted the assessment based on a process outlined in the Global Reporting Initiative's (GRI) Technical Protocol:

***Identify:*** Relevant sustainability topics covered in previous materiality assessments, as well as key industry reports, were reviewed to finalize a list of 16 environmental, social and governance topics and subtopics.

# REPORTING PRACTICES

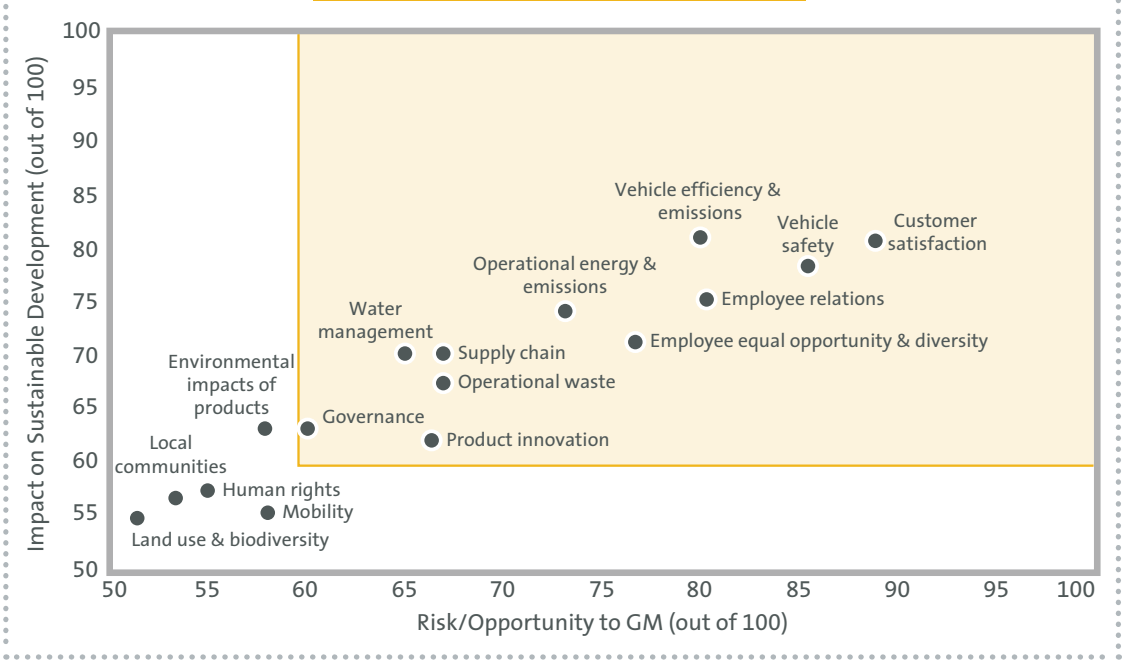
**Prioritize:** Two online surveys were deployed to GM employees and external stakeholders globally. Respondents were asked to prioritize the importance of sustainability topics and subtopics. The survey was completed by 1,052 GM employees, who were asked to what degree the management of an issue impacted GM's long-term success, and 367 external stakeholders, who ranked the importance of GM's management of a given issue.

**Validate:** Based on the survey results, all 16 topics were plotted on a preliminary materiality matrix, which was reviewed by a Sustainalytics automotive sector analyst in order to validate the relative importance of each topic. Based on this review, the relative importance of six topics was increased or decreased and a final matrix was determined.

Among the key learnings from this most recent materiality assessment: Our top three most material topics – customer satisfaction, vehicle safety and vehicle efficiency and emissions – remained consistent between 2014 and 2016 and are closely linked. Five of the top 10 most material topics rose in importance over the past three materiality analysis cycles: customer satisfaction, vehicle safety, employee relations, employee equal opportunity and diversity, and water management.

In addition, Sustainalytics identified collaboration with suppliers on social and environmental supply chain challenges, vehicle efficiency and emissions, and operational energy and emissions as leadership opportunities relative to other automotive OEMs.

**Materiality Survey Matrix**



*Customer satisfaction, vehicle safety, vehicle efficiency and emissions, and employee relations are among our most material issues.*

MATERIAL ISSUES IN THIS REPORT	
Material Issue	Report Section
Customer Satisfaction	Customers
Vehicle Safety	Vehicle Safety
Vehicle Efficiency & Emissions	Vehicle Efficiency & Emissions
Employee Relations	Talent
Employee Equal Opportunity & Diversity	Talent
Operational Energy & Emissions	Operations
Supply Chain	Supply Chain
Water Management	Operations
Operational Waste	Operations
Product Innovation	Vehicle Safety, Vehicle Efficiency & Emissions, Personal Mobility
Governance	Governance

### **CDP Reporting**

General Motors started working with CDP in 2010, when we began tracking carbon emissions and reduction activities through the CDP Climate Change Program. In 2013, we expanded our reporting to include all 15 categories of Scope 3 emissions, achieving our goal a year ahead of our original plan. GM has received perfect climate disclosure scores in the U.S. for the last three years (2016, 2015, 2014) and in 2016 was named to CDP’s Climate A List – a spot held by just 9 percent of the thousands of companies participating in CDP’s climate change program.

In addition to the climate change program, we have voluntarily participated in the CDP Water program since 2011. In 2017, we sponsored CDP’s World Water Day report, offering solutions to wastewater reuse, and were a gold sponsor of CDP’s Water & Forests Workshop.

We also participate in the CDP Supply Chain program, engaging our supply chain for the past four years

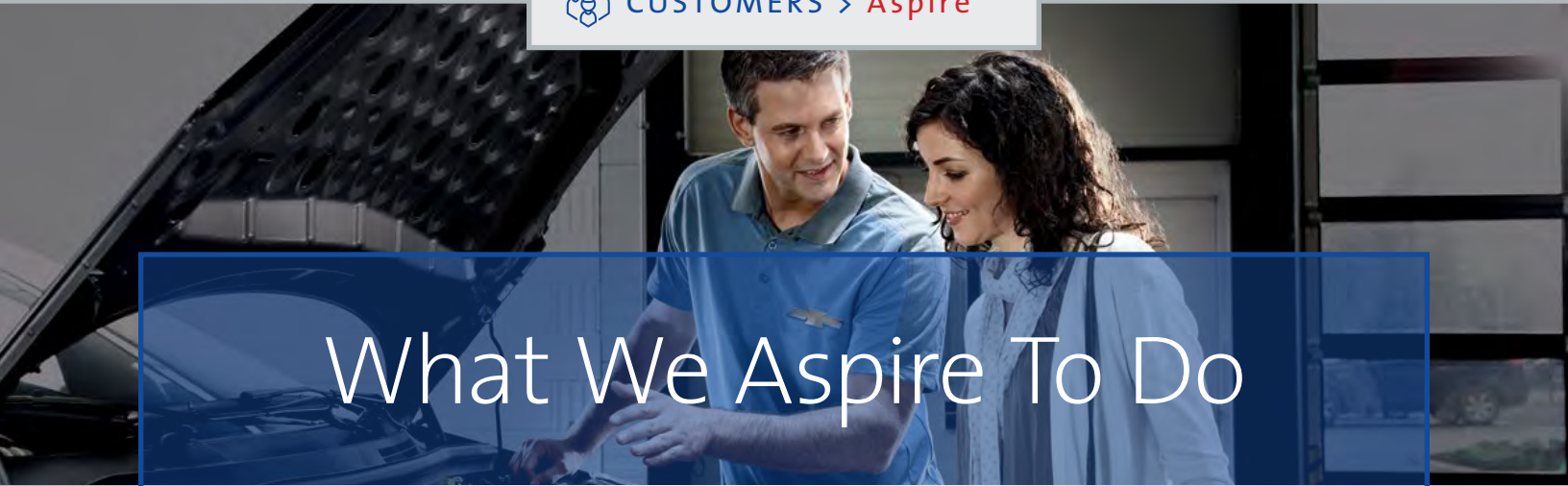
in actions to reduce their emissions, mitigate their effects on climate change and strengthen their overall businesses. We asked about 200 of our suppliers to disclose their energy use and carbon emission data to CDP and offered resources to help. The 70 percent of invited companies that responded reduced carbon emissions in total by 90 million metric tons, saving a cumulative \$23 billion, of which 8 million metric tons and \$1.2 billion was attributed to their business with GM. These efforts earned GM a spot on CDP’s Supplier Climate A List. Only 3 percent of the thousands of companies who report to CDP achieved the ranking.

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 this program to more accurately measure our indirect greenhouse gas (GHG) emissions and water impact, and prioritize our climate change risk management within the GM supply chain.



# CUSTOMERS

Aspiration: Earning Customers for Life



# What We Aspire To Do

## EARNING CUSTOMERS FOR LIFE

It's not surprising our stakeholders continue to identify customer satisfaction as General Motors' most material issue. This aligns completely with our purpose to earn customers for life, and customer satisfaction ensures the long-term sustainability of our business in a highly competitive marketplace. Research has shown that companies who lead in customer experience generally enjoy a higher stock valuation than those who lag in customer experience. When you 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, the business benefits are compelling.

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Recognize Customer Service Excellence .....	42
Communicate More With Customers .....	43

# Our Management Approach to Customers

## Focusing Totally on the Customer

Customer satisfaction speaks to what we believe as a company. As a business, our objective is to provide our customers with quality and safe products and services. Today, we are more focused on this responsibility than at any other time in our history. The goal is to satisfy our customers to a level where they are not only loyal to our brands and products, but also recommend them to others.

Everything we do across the enterprise is about delivering the highest levels of product quality. Our brands, products and services aim at being consistent top performers in benchmark quality studies and consumer purchase preferences.

Accordingly, our focus on product quality aligns the entire company with the goal of exceeding customer expectations and providing customers with the best overall experience.

This total focus on the customer defines how we develop, engineer and manufacture our vehicles to ensure top quality and durability, starting with product development. We harness customer feedback from every global market to help shape every aspect of our product experience, using our GM Compass customer survey to gather preferences for a variety of issues – from performance and efficiency to how people interact with their vehicles. We also are continually refining our vehicle development processes to make sure we are delivering products our customers want and that meet their high expectations for quality, safety and performance. In 2016 we released the latest version of our Global Vehicle Development Process with additional explicit steps for safety and quality assurance.

All GM manufacturing operations are certified to ISO 9000, a set of international standards on quality management and quality assurance. Globally, we are currently transitioning to the new ISO 9001:2015 standard, which is aligned with the most recent trends. Currently, five operations have completed the transition and we expect that all will be certified to this new standard by September 2018. Our powertrain, stamping and component operations are held to an even higher standard, ISO/IATF 16949. Eight facilities are certified to this level. We also have

### Key Takeaways

- » Satisfying our customers is at the center of everything we do at GM; our goal is to earn customers for life.
- » Customer feedback informs our product development process, as well as shapes how we interact and engage with them through the life of the product.
- » We are focused on delivering the highest levels of product quality by cultivating a culture of excellence and holding our operations to rigorous internal and external standard certifications.
- » Beyond product quality, our Customer Assistance Center is dedicated to responding to customer concerns at any time.
- » We measure customer satisfaction primarily through our Net Promoter Score, which indicates how likely a customer is to recommend our products.



an internal quality standard, Built in Quality (BIQ), that is even more rigorous than external standards.

Initial Quality has evolved as a measure of issues that customers may experience with their vehicles in the first months of ownership. In recent years, user friendly infotainment systems, seat comfort, knob and handle placement and other features have replaced component failures as top quality issues. The key metric for GM to measure initial quality is 12 Months in Service Incidents Per Thousand Vehicles (12 MIS IPTV). Initiatives such as improving supplier launches, and Built-In Quality (BIQ) are a key part of our strategy.

It's also important to understand that quality today goes beyond reliability to encompass often intangible experiences. This is why we are taking more scientific approaches to translate customer input and feedback into technical requirements that define the overall driving experience. Consider, for example, how an engine sounds and a transmission shifts, how buttons feel when pushed or the type of sound doors make when closing. Such quality attributes often can be difficult for customers to describe and quantify. New advanced tools and approaches, such as Human Vehicle Integration, help to translate customers' requirements into technical specifications and ultimately vehicle designs.

The implementation of the latest quality tools and programs is helping GM employees around the world to react better and faster to the needs of our customers. For example, our Global Product Development organization has completed the highest level of Design for Six Sigma training, a process that focuses on customer issues and solutions. We also have migrated all of our plants around the world to the highest "Built-in-Quality" levels with the goal of shipping defect-free products. Operational Excellence has been implemented across the enterprise as a proven, system-wide and data-driven approach to confronting business issues and identifying lasting solutions.

The goal of these and other programs is to take action as early as possible in the vehicle development and manufacturing process to ensure excellence at product launch. This "quality across the enterprise" approach drives behaviors and actions throughout the company to result in the best brands, products and services for our customers.

### Customer Experience

We recognize customer satisfaction is a function of both quality products and customer interactions to create a distinctive customer experience. This requires having a 360-degree view of our customers that enables us to recognize, understand and serve them best.

We make great efforts to make sure that our customers can share their concerns with us at any time. Our Customer Assistance Center is fully integrated with our U.S. dealer network, field organization, technical and parts assistance, engineering, product quality teams and OnStar and Roadside teams. Any GM employee or customer can easily report a concern or comment through the Center's website, email address or phone hotline, where our dedicated team works to quickly incorporate feedback and resolve concerns.

We measure customer satisfaction progress primarily through the Net Promoter Score, which is an important key performance indicator that gauges 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.

Regardless of whether we are using an internal or external measure of success, we are gratified to see progress, but will be satisfied only when we are exceeding the expectations of each and every GM customer.

GM BRANDS EARNED MORE SEGMENT AWARDS THAN ANY OTHER AUTOMAKER IN KEY J.D. POWER STUDIES



**U.S. VEHICLE DEPENDABILITY**  
**8**  
Award-recognized models<sup>(a)</sup>



**U.S. VEHICLE INITIAL QUALITY**  
**7**  
Award-recognized models<sup>(b)</sup>



**U.S. AUTOMOTIVE PERFORMANCE, EXECUTION AND LAYOUT**  
**6**  
Award-recognized models<sup>(c)</sup>

(a) Buick Encore, Buick LaCrosse, Buick Verano, Chevrolet Camaro, Chevrolet Equinox, Chevrolet Malibu, Chevrolet Silverado HD and GMC Yukon

(b) Buick Cascada, Chevrolet Equinox, Chevrolet Silverado HD, Chevrolet Silverado LD, Chevrolet Spark, Chevrolet Tahoe and GMC Terrain

(c) Chevrolet Sonic, Chevrolet Camaro, Chevrolet Colorado, Chevrolet Tahoe, Buick Cascada and GMC Sierra HD





# How We Measure Progress

## North America

J.D. Power 2016 Vehicle Dependability Study

**8**

Award-Recognized Models

J.D. Power 2016 Initial Quality Study

**7**

Award-Recognized Models

J.D. Power 2016 Automotive Performance, Execution and Layout (APEAL)

**6**

Award-Recognized Models

Consumer Reports Annual Reliability Survey

**12**

Models

IHS Markit Automaker with Highest Overall U.S. Customer Loyalty

**2nd**

Consecutive Year

## International

China Automobile Customer Satisfaction Index

**9**

Segment Winners

China J.D. Power Vehicle Dependability, Initial Quality and APEAL

**7**

Segment Winners

Europe J.D. Power Vehicle Dependability Study

Opel ADAM

**#1**

Small Car

## Brands



Chevrolet is the most awarded car company three years in a row, based on recognized industry awards for 2014–2016 year-end totals.



In China, Cadillac was named Luxury Car Brand of the Year by Auto.Sina.com.



Buick was one of only two brands in the industry last year to earn a National Highway Traffic Safety Administration five-star Overall Vehicle Safety Score for every model in its lineup.



GMC was named the Most Ideal Popular Brand in AutoPacific's 2016 Ideal Vehicle Awards for the third consecutive year.

# Actions to Move Us Forward

## RECOGNIZE CUSTOMER SERVICE EXCELLENCE

Each year, we celebrate our customer service efforts with Customer Service Week, which recognizes all the work it takes to provide high-level service to GM customers and dealers everywhere. Customer Service Week offers us a chance to say thank you to our contact center advisors, to take a moment to think about the role we all play in taking care of our customers, and to acknowledge how seriously our employees take their responsibility to build lasting relationships with our customers.

**Each year, we celebrate our customer service efforts with Customer Service Week, which recognizes all the work it takes to provide high-level service to GM customers and dealers everywhere.**

Every three months, we present at our All-Employee Meetings the I CARE Culture Award for individuals or teams who exhibit the qualities that will help us win by putting the customer first in everything they do. Winners have made an exceptional effort to do something that improves our customers' ownership experience. In 2016, Vipin Pal, an aftersales parts engineer from GM India, took home top honors for his outstanding service in tracking down a replacement cooling part for a 15-year-old Opel vehicle that had long since been discontinued in India. Because of the car's great sentimental value – it was a gift to

our customer from his religious leader – Vipin made every effort to replace the part, and thrilled the customer when his vehicle was repaired in less than two weeks. Employees like Vipin truly showcase our dedication to doing the right thing for our customers, every time.

Another recognition program is aimed at our Global Connected Customer Experience (GCCX) team, which focuses on putting the customer at the center of everything they do. Each day GCCX employees have many opportunities to make a difference for GM customers. Now in its second year, the GCCX Connections Awards is a peer-nominated employee recognition program.

All GCCX direct and indirect active employees were invited to nominate fellow employees, which totaled nearly 100 nominations globally in 2016. The criteria focused on helping GM meet business goals by exhibiting GM values and living the GCCX promise to “connect customers to reimagined mobility experiences that people love.” Each of the seven awards given was aligned with the GM Strategic Priorities and GCCX Values.



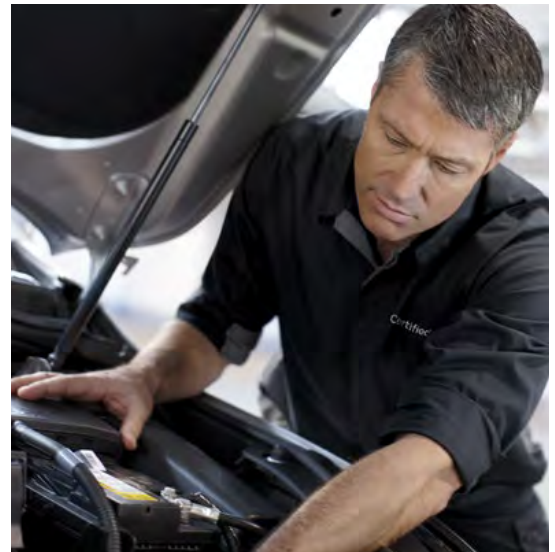
Employees at our Customer Engagement Center in Warren, Michigan.

## COMMUNICATE MORE WITH CUSTOMERS

GM's new centralized dealer chat program was launched in 2016 with about 400 GM dealer subscribers. Just seven months after launch in August, the Global Connected Customer Experience (GCCX) Dealer Chat team had more than 850 dealer subscribers and had reached a milestone of 100,000 customers engaged through webchats.

With Dealer Chat GM, customers browsing on dealer websites receive 24/7 support from a team of trained GM advisors who can answer questions about product information, inventory and incentives, as well as scheduling test drives and service appointments. Dealers subscribe to the service and, in return, increase customer satisfaction and sales leads.

“As consumer shopping preferences evolve, we must offer shopping and communication tools that are convenient and meet their needs,” said Michael Bojarczyk, senior manager, GCCX Marketing Support. “Dealer Chat GM is one example of how GM is making it easier for consumers to get the information they need and also contributing to GM's bottom line. Our team puts the customer at the center of all we do, delivering strong business results, and we intend to build on this early momentum.”

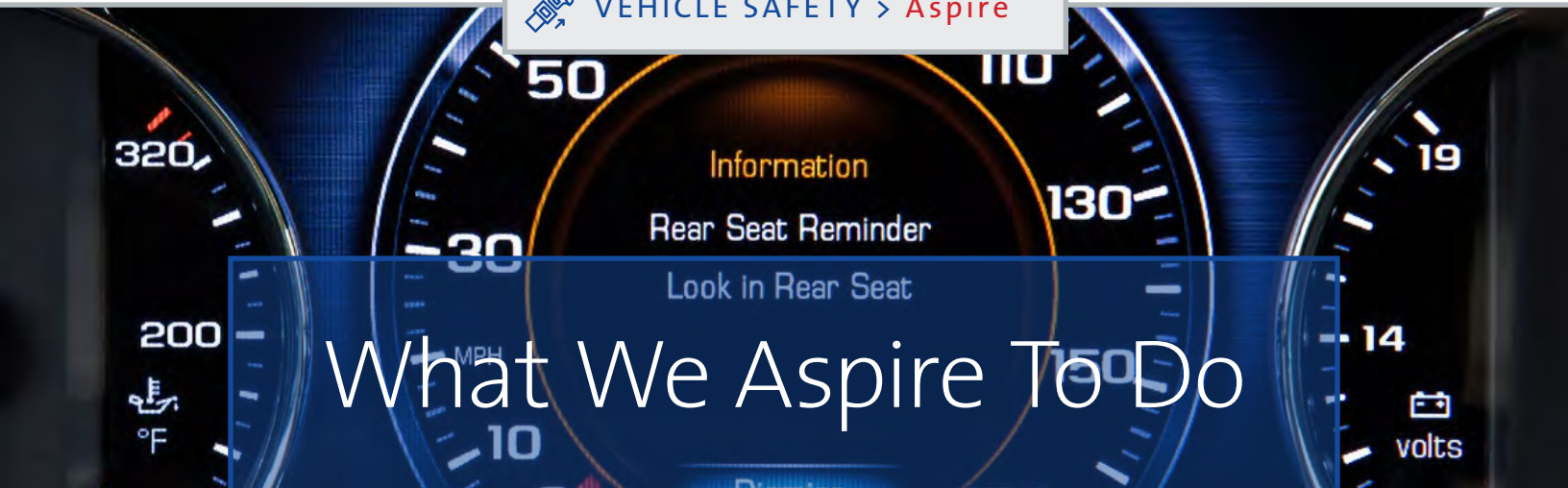




# VEHICLE SAFETY

Aspiration: Imagining Zero Injuries





# What We Aspire To Do

## IMAGINING ZERO INJURIES

Everything we do is guided by what’s best for our customers. Appreciating them and working each day to earn their loyalty is what drives us to make better and safer cars, trucks and crossovers. Safety and quality form the foundation on which our business is built. Our customers depend on our vehicles and technologies to safely and reliably transport them and their families on life’s journeys.

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# Our Management Approach to Vehicle Safety

## Making Vehicle Safety Everyone's Priority

The past three years have seen a sea of changes in how everyone at GM works to improve vehicle safety. Two years ago we structured our decision-making process for safety issues to include executives at the highest levels of the company and engaged employees at every level to determine potential safety issues. This included appointing a first-ever Vice President of Global Vehicle Safety in 2016. In addition to leading our product safety organization, this senior executive is tasked with global responsibility for developing GM's vehicle safety systems, confirming and validating our vehicle safety performance, identifying emerging issues and conducting post-sale safety activities, including recalls.

### **More Resources**

At the same time, we began significantly expanding our Product Safety organization and have added more than 200 employees since 2014. This includes more than 40 new internal product investigators in North America who help identify and quickly resolve potential vehicle safety issues and 32 safety forensic engineers who are responsible for early identification of potential vehicle safety issues and respond to Speak Up for Safety submissions. We also reorganized our Global Vehicle Engineering organization to improve our cross-system integration and address functional safety and compliance in the vehicle development process.

### **Personal Responsibility**

Across the company, we have made vehicle safety everyone's responsibility. Our Speak Up for Safety program is designed to give employees, suppliers and dealers an easy, consistent and unfiltered way to report potential vehicle safety issues. Through a toll-free phone number, a smartphone app, email or the Speak Up for Safety website, submitters can report any potential vehicle safety risks and suggest safety-related improvements. From there, our dedicated safety team funnels employee concerns to the appropriate departments. The entire process provides an unprecedented comprehensive view of safety issues so that potentially interconnected risks that cross products can be better identified.



### Key Takeaways

- » The safety of our customers is a foundational commitment, and everyone at GM "owns" vehicle safety.
- » In the past three years, we have completely refreshed our approach to safety, strengthening resources and building a culture of safety.
- » Our Speak Up for Safety program is a hub for employees, suppliers and dealers to report vehicle or workplace safety concerns.
- » Product quality is a key enabler of vehicle safety and reflects our total focus on the customer.

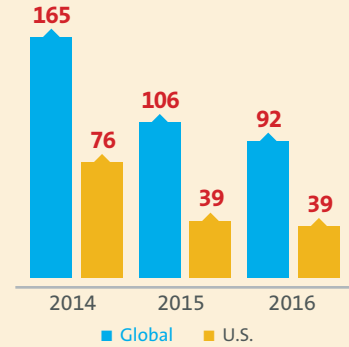


We're also making greater use of data analytics to identify potential vehicle safety issues. A data analytics team is merging multiple inputs – such as Speak Up for Safety submissions and dealer service records – to build a unique, comprehensive database. Statistical analysis and modeling can identify potential issues much earlier by linking perceived disparate issues.

Across GM, employees have embraced Speak Up for Safety, and it has quickly become a hallmark of our safety culture. Since the program's inception, more than 12,000 concerns and/or suggestions have been logged globally by employees and dealers. Individual responsibility and accountability also were underscored during our first-ever Take 5 for Customer Safety Week in 2016. Employees were urged to "Take 5" minutes or more each day during the week to participate in safety-related activities, read safety-related content on our intranet or simply reflect on the role we play in the lives of our customers.

### GM Safety and Noncompliance Recalls

By building a culture of safety, we are able to identify potential quality and safety issues earlier. In addition to a decrease in the number of recalls, we also are seeing issues related to more current models surface more quickly than in the past.

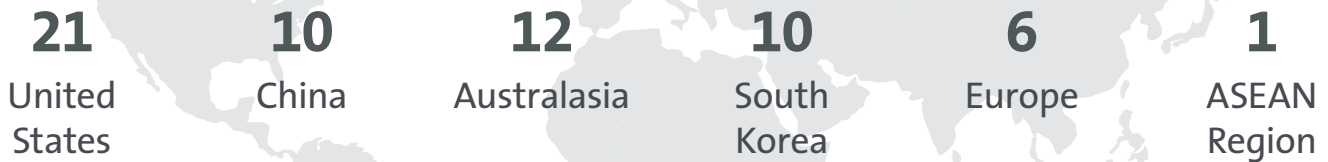




# How We Measure Progress

## New Car Assessment Program\* Top Performing Models

(Number of models with 5-Star overall vehicle score or top overall rating)



### 2016 IIHS TOP SAFETY PICKS

Top Safety Pick and Top Safety Pick Plus models listed are when equipped with optional front crash prevention and are for models sold with U.S. vehicle content

#### TOP SAFETY PICK

- 2016 Chevrolet Sonic
- 2016 Chevrolet Malibu Limited
- 2016 Chevrolet Equinox
- 2016 Buick Encore
- 2016 GMC Terrain

#### TOP SAFETY PICK PLUS

- 2017 Chevrolet Volt
- 2016 Chevrolet Malibu
- 2016 and 2017 Buick Envision
- 2017 Cadillac XT5

# 100%

of Buick Models Tested Have a 5-Star Overall Vehicle Safety Score\*

## Global Deployment of Advanced Safety Technologies

(Number of models with these technologies available or as standard equipment)



Forward Collision Alert

# 61



Full-Speed-Range Adaptive Cruise Control

# 24

Forward Automatic Braking\*

# 26

Lane Departure Warning

# 58



Safety Alert Seat

# 23



Front Pedestrian Braking

# 4

Side Blind Zone Alert

# 40

Rear Cross-Traffic Alert

# 39

Lane Keep Assist

# 27

Surround Vision

# 6

\*See page 169 for footnotes regarding our Safety Program data.





# Actions to Move Us Forward

## INNOVATE TECHNOLOGIES TO ADDRESS SOCIETAL ISSUES

Our pursuit of industry leadership in vehicle safety continues to be underscored by the introduction of new advanced technologies, many of which have been developed to address the behavioral side of safety.

The 2017 all-new GMC Acadia, for instance, includes a new standard feature called Rear Seat Reminder. According to the National Highway Traffic Safety Administration, heatstroke is the leading cause of non-crash, vehicle-related fatalities for children ages 14 and younger. Although Rear Seat Reminder does not detect the presence of a child in the rear seat, the feature was developed to audibly and visually remind drivers to check the rear seat if either of the rear doors has been opened and closed 10 minutes prior to turning the vehicle on or while the engine is running. Given the potential for this technology to make a difference, we are rolling it out across 16 Buick, Cadillac, Chevrolet and GMC models in the 2017 and 2018 model years.

### Teen Driver Technology

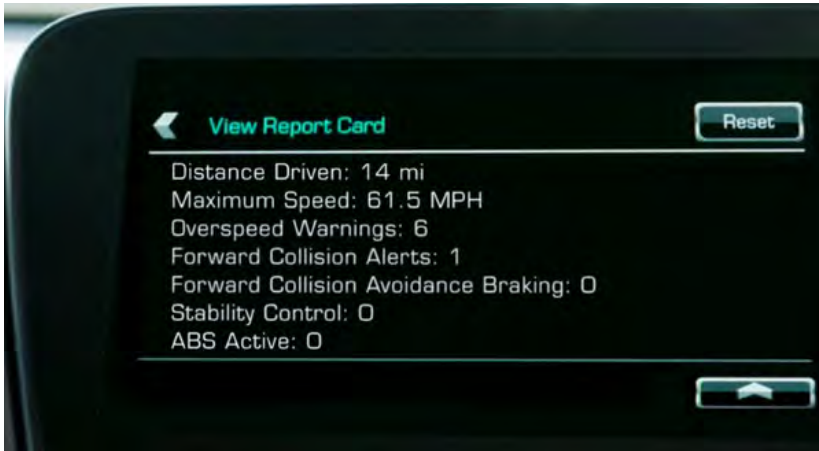
We are also working to use the leading technologies embedded in GM vehicles to help keep teens and their passengers safe. The 2016 Chevy Malibu pioneered the Teen Driver system, which provides parents with a teaching tool to help encourage safe driving habits for their kids, even when the parents are not in the car with them. In model year 2017, Chevrolet is expanding the technology to 10 of its 2017 vehicles,



including the Bolt EV, Camaro, Colorado midsize pickup, Cruze, Malibu, Silverado and Silverado HD pickups, Suburban, Tahoe and Volt. In total, Teen Driver will be available in more than 60 percent of 2017 Chevy vehicles sold. The system also will be available in Cadillac, Buick and GMC models beginning in May 2017.



*The new Rear Seat Reminder uses audio and visual cues to prompt drivers to check their back seat for passengers, such as children or pets.*



The Chevrolet Teen Driver system provides parents with the ability to enable various in-vehicle safety features like an in-vehicle report card to help their kids drive more safely, even when parents are not in the car with them.

The expansion comes in the wake of a small online survey of parents of teens who said their greatest worry was their teen driving without supervision. Activated by a preprogrammed key

fob, the Teen Driver technology can let parents limit the maximum volume on the radio and can give audible and visual warnings when the car is traveling faster than the preapproved speed set by the parent. Available safety features, such as stability control, forward collision alert, front automatic braking, lane keep assist and lane departure warnings, are turned on and cannot be disabled. If front seat belts aren't being used, then the audio will be muted until buckled belts of front seat occupants are detected.

### Research & Development

For drivers of any age, we also are focused on developing and implementing new technology to help encourage seat belt usage and help address impaired driving. Seat Belt Assurance

## Speak Up for Safety in Action

Like all GM employees, design release engineer Ryan Haberkern understands the importance of safety, and how to escalate a safety risk. But he didn't expect to find a safety risk in the back of his father-in-law's car. Riding as a rear-seat passenger in a 2010 Chevrolet Impala, Ryan heard his father-in-law mention that the radio and cluster gauges had gone out. Ryan's mother-in-law mentioned that if she lifted herself out of the front passenger seat for a moment she could often reset the gauges.

Ryan immediately recognized this as a safety issue and promised his family he would look into the problem when he returned to work. He filed a Speak Up for Safety submission, and our engineers determined that passenger-seat frames in certain Impalas could chafe



Speak Up for Safety winner, Ryan Haberkern (center).

the electrical wires, which in rare cases could disable the vehicle's air bags. Thanks to Ryan's quick thinking, we issued a Product Safety Recall, protecting not only Ryan's family, but additional scores of customers as well.

### SPEAK UP FOR SAFETY SUBMISSIONS

**12,000+**  
Total

**~450**  
Monthly

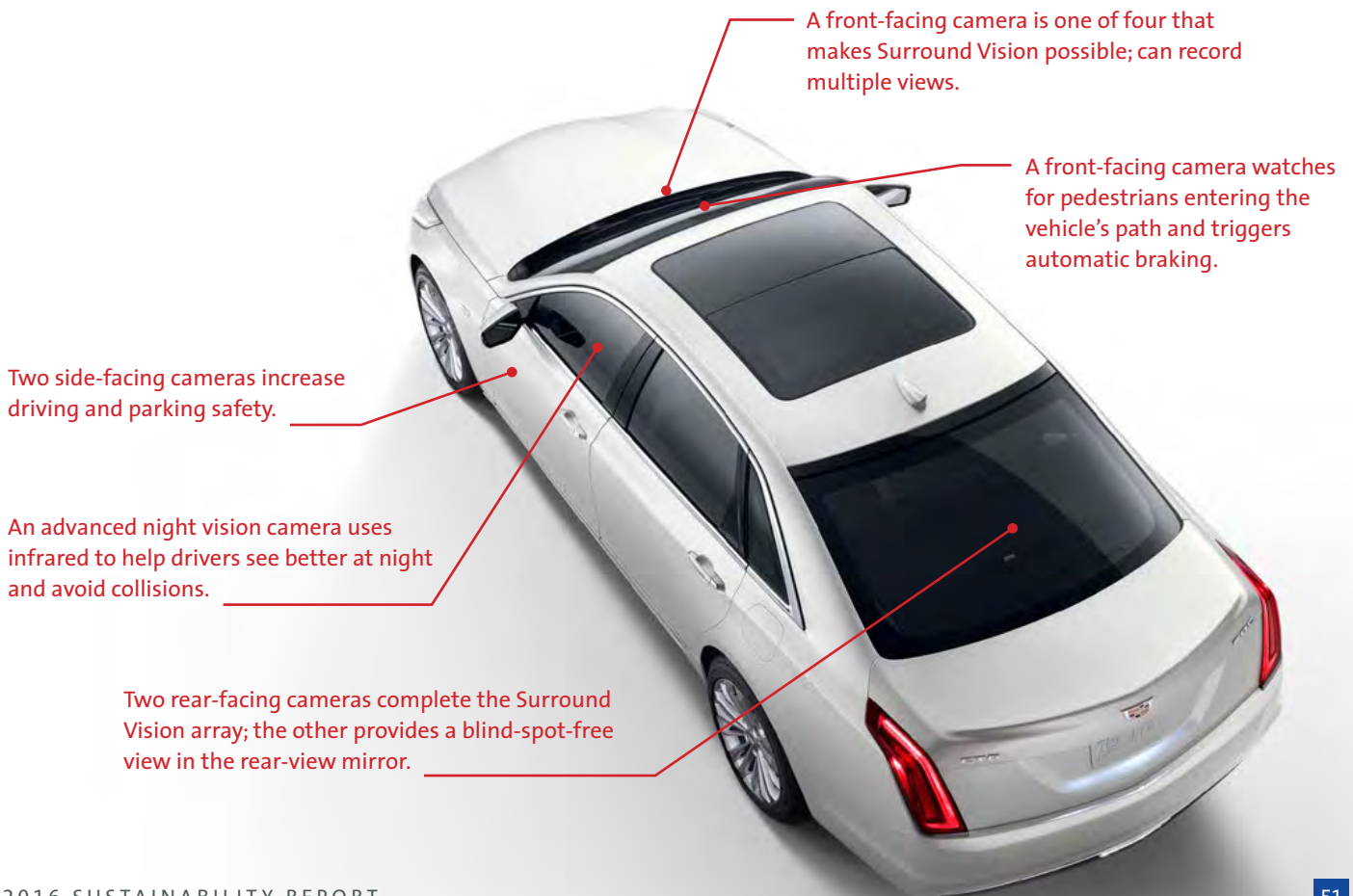


System is a seat belt interlock that prevents the vehicle from being shifted out of park until the driver and detected front seat passenger are buckled up. This feature is available on a limited number of fleet vehicles. It is being evaluated as a pilot to determine customer acceptance and the effect it may have on increasing seat belt use. Another ongoing research program is Driver Alcohol Detection System for Safety (DADSS), a collaboration between the automotive industry and the government to develop a sensor technology which, someday, could reliably keep intoxicated drivers off the road.

Finally, we are supporting an automotive industry agreement proposed by NHTSA and IIHS that would lead to making Forward Collision Alert and Forward Automatic Braking standard on light vehicles. Both technologies are available today on dozens of 2016 Chevrolet, Buick, GMC and Cadillac models, accounting for more than 1 million vehicles on the road. Currently, 61 models are available with forward collision alert, and 26 models offer both Forward Collision Alert and Forward Automatic Braking.

## Seeing a New Level of Safety

The 2016 Cadillac CT6 boasts a number of advanced safety features, including seven embedded cameras that offer the confidence of knowing what's happening around your car at all times.





## WORK TOGETHER FOR SAFER ROADS

We recognize that road safety is a two-part equation – one that involves automotive companies offering the safest vehicles possible and motorists driving in the most responsible way possible. That’s why in 2016 we joined the Together for Safer Roads coalition, a group of companies spanning industries with the shared goal of promoting results-driven programs that address strategic road safety challenges. Coalition members build sustained partnerships with each other, as well as the public sector and academia, to amplify road safety efforts and ultimately save lives.

We have already taken part in a number of projects with Together for Safer Roads, including the annual World Day for Safety and Health at Work, which educated more than 1 million people across 45 countries about how to be safer at work, and the annual Safer Roads Challenge, which delivers member companies’ expertise to help local leaders identify the root causes and potential solutions for a community’s specific road safety challenge.

*As part of the Together for Safer Roads coalition, we are dedicated to working with our stakeholders to amplify road safety efforts and ultimately save lives.*



## Q&A

### SPEAKING UP FOR SAFETY A CONVERSATION WITH JEFF BOYER, VICE PRESIDENT OF GLOBAL VEHICLE SAFETY

**Q** During the past three years, GM has completely refreshed its approach to vehicle safety through a series of initiatives. Which of these has been most transformative to date?

**A** It’s hard to pinpoint one thing because many of our initiatives complement and build upon one another. Certainly, our Speak Up for Safety program has been transformative because of its ability to engage each and every employee. We’ve really empowered our people in a very personal way by providing a clear channel for them to speak up about safety issues or suggest new ideas. In the past three years, we’ve also added more people to the Global Vehicle Safety organization, more than 100 in North America alone and about as many globally. This growth in capacity has been accompanied by new analytical tools and methods. The cumulative result of all of these initiatives is a better ability to find and respond to issues earlier in the vehicle life cycle.

**Q** How do you measure the success of the programs like Speak Up for Safety?

**A** One measure of the program’s success is the number of new submissions we receive – hundreds each month. These submissions are reviewed, more deeply investigated where appropriate, recommended for final decision and action. In fact, we’ve recently added a feature that allows individuals to track their submission through the review and decision process so they can learn more about the process and understand the status of their concern.



**Jeff Boyer**  
Vice President of  
Global Vehicle Safety

**Q** What effect has the program had on recalls?

**A** The result of a submission doesn't always lead to a recall. Outcomes also may lead to product changes, dealer bulletins, or other actions in support of the customer. However, when a field action is warranted, a greater proportion of recalls are for smaller populations of vehicles thanks to SUFS and other advanced data analytics tools we've deployed.

**Q** Do you tailor vehicle safety initiatives to different regions around the world or are they all executed consistently on a global basis?

**A** We design and engineer our vehicles using global product architectures and global design principles, but may vary content and designs to meet regional regulatory requirements, market needs, and customer expectations and preferences.

**Q** There are many technological advances occurring in the automotive industry today. Which will have the most impact on vehicle safety?

**A** Data shows that about 94 percent of all crashes are the consequence of driver choices so we can have a tremendous impact on customer safety by working to reduce driver risky behaviors such as speeding, drinking and driving, distracted driving, drowsy driving and, of course, lack of seat belt use. For example, roughly 80 percent of all crashes involving non-impaired drivers could benefit from cars communicating with each other using Vehicle-to-Vehicle or V2V technology, once all vehicles on the road are equipped with this technology. We're very excited that the 2017 Cadillac CTS will come equipped V2V technology, which will be an industry first.

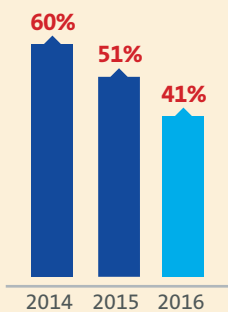
**Q** What other industry-first technologies are currently in GM's portfolio?

**A** Teen Driver and Rear Seat Reminder are two of our most recent introductions. Teen Driver includes an industry-first report card so that parents can discuss driving performance with their teens, even if they were not along for the ride, while Rear Seat Reminder is an industry-first technology that, under certain conditions, can remind a driver that they may have left something in the rear seat, including a child. This technology cannot directly detect people or pets, but may offer a reminder if the rear doors have been used just before or during an ignition cycle and remind the driver to look in the rear seat.

We are also working on technologies that can someday replace the driver. The fact that most crashes are caused by human error means the potential for improved safety from autonomous driving is huge. This won't happen overnight, but work is progressing rapidly to develop automated driver systems that can reliably perform the tasks of driving, without the human mistakes caused by inattention, impairment, or other behaviors.

### PROPORTION OF RECALLS\* INVOLVING MORE THAN 10,000 VEHICLES

A greater proportion of recalls occurred on smaller population sizes. Early detection reduces risk for GM and our customers



\* U.S. safety and non-compliance recalls



## HELP MANAGE DISTRACTED DRIVING

We recognize the immense benefits that our connected world offers to improve the driving experience, but also understand that safety is the foremost consideration when embracing new technologies. The National Highway Traffic Safety Administration estimates that distracted driving kills nine people and injures more than 1,071 every single day. This is why designing systems to help drivers manage distraction, by keeping their hands on the wheel and eyes on the road, is a priority.

We strive to support hands-free functionality within our vehicles with features such as phone controls embedded in steering wheels, MyLink with Bluetooth connectivity and voice-controlled OnStar commands. In 2016 we integrated Apple CarPlay™ and Android Auto capability across our portfolio, facilitating hands-free dialing, texting and app use.

### **Engineering to Manage Distraction**

Our engineers take great care to position and size both controls and displays in ways that ease access and streamline the steps required for drivers to complete a task. We encourage our customers to pair their mobile devices with their vehicles and to take advantage of the voice recognition features whenever possible. In addition, our infotainment systems utilize guidelines developed by the Auto Alliance, the NHTSA and our own Guiding Principles.

### **Understanding Driver Behavior**

As we work to develop the technology for tomorrow's connected vehicles, we also must learn how today's technologies are impacting driver behavior. We partnered with the Virginia Tech Transportation Institute and Purdue University to identify the ways that technology – specifically smartphones and increasingly complex computer interfaces within vehicles – create competition for drivers' visual attention.



Our study compared both hands-on steering and automated steering, both with full-speed, range-adaptive cruise control engaged, and found that drivers tend to split their visual attention

between the roadway and secondary tasks by making relatively frequent but brief off-road glances, each of which can increase the likelihood of a collision or other road accident.

The study also helped us identify what new technologies will be needed to promote safer operation of future autonomous systems. We found that advanced driver monitoring and assistance features, such as Forward Collision Alert, can increase drivers' focus on the road ahead by 126 percent when automated steering is in operation, which increases detection and response to roadway events. Our Driver Assist Package includes features such as full-speed, range-adaptive cruise control and forward automatic braking, which are designed to help prevent collisions caused by human error. The more we learn about driver behavior, the better we can shape our technology to improve performance and safety at the same time.



*(Top) Our suite of integrated hands-free technologies, including Apple CarPlay™ and MyLink with Bluetooth connectivity, helps drivers manage distraction by keeping their hands on the wheel and eyes on the road.*

*(Bottom) Advanced driver monitoring and assistance features, such as Forward Collision Alert, increase drivers' focus on the road ahead when automated steering is in operation.*



# VEHICLE EFFICIENCY & EMISSIONS

Aspiration: Advancing Zero Emissions Vehicles





# What We Aspire To Do

## ADVANCING ZERO EMISSIONS VEHICLES

We are committed to find and implement solutions to reduce the CO2 emissions of our global vehicle fleet, which represents 77 percent of our annual carbon footprint. In addition to the environmental benefits, reducing CO2 emissions is a smart business strategy. Developing fuel-efficient vehicles that deliver on our long history of quality also saves our customers money over the life of their purchase. In addition, almost every market where we sell vehicles has implemented aggressive fuel-economy and carbon-emissions regulations, so our steadfast work to reduce emissions is important for long-term business success.

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# Our Management Approach to Vehicle Efficiency & Emissions

## Innovating Toward a Lower-Carbon Future

Fuel economy and mobile emissions are among the most regulated areas of our business. Our customers expect us not only to comply with these regulations, but also to innovate technologies that can provide them with greater fuel economy and cleaner emissions. In doing so, we increase the customer value proposition of GM products.

We have made product commitments that are closely aligned with fuel economy and emissions guidelines in GM's largest markets. We have made meaningful progress to position our fleet to meet aggressive compliance targets in the years ahead. This progress has been the result of a two-part strategy that seeks to increase the mix of electric vehicles in our product portfolio and to improve the efficiency of traditional propulsion technology and other fundamentals such as vehicle weight.

We call this strategy "efficient fundamentals," which, at its simplest, enables us to launch new vehicles with significantly better fuel efficiency or emissions than the vehicles they replace. The strategy allows us to robustly manage fleet performance and balance against swings in market demand in new technology offerings during periods of sustained lower fuel prices. As a result, we manage our environmental impact across our entire fleet rather than a single product. Going forward, we expect our fuel efficiency performance to be tied to continuous product improvements between model updates, as well as to the introduction of major new technologies.

### **Market Challenges**

Progress in the marketplace, especially with respect to electric vehicle sales is harder to achieve during sustained lower fuel prices. Sustained low fuel prices change the dynamics of consumer purchasing behavior. Not surprisingly, fuel economy becomes less of a top purchasing consideration. In the U.S., our sales mix shifts from cars toward a heavier concentration of trucks. During such times, it can be more challenging to increase sales of fuel-efficient models and gain broad market acceptance of higher-cost, advanced fuel-saving technologies, such as electric vehicles. Lower gasoline prices

### **Key Takeaways**

- » Our strategy is two-fold, improving the efficient fundamentals of traditional propulsion technology and innovating new lower-carbon technologies.
- » Fuel economy and emissions are not only a highly regulated part of our business, but also a way in which we increase the customer value proposition of our products.
- » We actively work with government regulators to develop the most effective and efficient policies and rules possible.
- » Gasoline prices remain low, reducing some customers' desire for more fuel efficient vehicles and presenting a marketplace challenge for EV sales and other advanced technologies.
- » Faster growth in emerging markets presents a challenge, as their new regulations are often aligned with those of more developed countries, but where household incomes are generally significantly lower.



*(Left) The second-generation Chevy Volt demonstrates our continued commitment to developing new lower-carbon technologies.*

*(Right) The all-new 2017 Chevrolet Bolt EV*

also translate into a longer payback period for customers who often have paid a premium for advanced technologies.

**Advanced Technology Commitment**

We remain committed to a robust advanced technology program and continue to invest millions of dollars annually in research and development. In fact, about half of our more than 9,300-member Global Propulsion Systems engineering workforce is involved with alternative or electrified propulsion systems. In the 2016 and 2017 model years alone, we have introduced the second-generation Chevrolet Volt and debuted the Chevrolet Bolt EV – an industry game changer that offers EPA-estimated 238 miles of all-electric driving at an affordable price.\* Though it may be years before sales of these products reach critical mass, our investments today ensure incremental technological progress well into the future.

Another hallmark of our progress has been compliance with regulations without compromising performance for our customers. As a full-line automotive manufacturer, our portfolio ranges from compact vehicles that meet urban requirements to powerful full-size trucks that meet customer utility needs. This is why we remain focused on propulsion technologies and advanced lightweight materials that make new levels of efficiency possible for even the largest conventional vehicles.

**Regulatory Engagement**

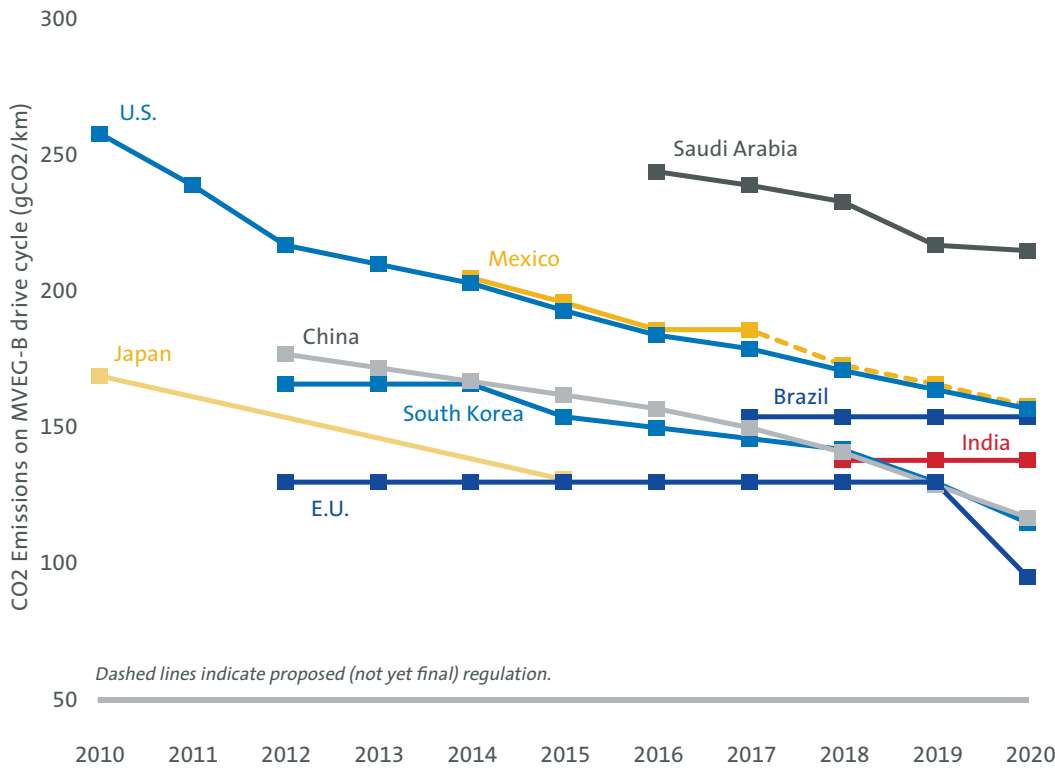
We work closely with government regulators to develop the most effective and efficient rules possible. In the United States, we are actively engaged in a midterm evaluation of GHG and Corporate Average Fuel Economy (CAFE) standards that began in fall 2016 with regulators at the U.S. EPA and NHTSA, respectively. Our priorities include seeking better harmonization of the regulations between these two agencies and more flexibility in realizing credit for real-time carbon reductions through technology deployment. We are committed to ongoing dialogue with all stakeholders to find solutions that will close gaps between regulation and real-world business conditions.

**We remain focused on propulsion technologies and advanced lightweight materials that make new levels of efficiency possible for even the largest conventional vehicles.**

\* See all footnotes on page 169



### Global Fuel Economy / CO2 Outlook



Increasingly stringent regulations related to mobile CO2 emissions and fuel economy are common throughout key business regions in the world.

Source: GM Public Policy

In Europe, our Opel team has taken proactive and forward-looking steps to meet forthcoming EU emissions regulations. In June 2016, we expanded the emissions we publish for our Opel Astra diesel engines to reflect real-world driving emissions and began efforts to reduce NOx emissions from our diesel engines, bringing us in line with rules coming into place in 2017. We believe that diesel will continue to play a major role in Europe. In fact, diesel technology will continue to be an important solution to achieving fuel economy and CO2 goals in a global economy. We continue to have a positive outlook for diesel technology.

#### Emerging Markets

On a global basis, fuel economy and greenhouse gas emissions continue to be top-of-mind priorities for the transportation sector. We are especially focused on emerging markets where we expect to realize a significant amount of business growth in coming years. In these markets, we want to find affordable product solutions for our customers,

who generally have lower average household incomes, while meeting fuel economy mandates and regulations that are often aligned with those of more developed countries.

Many countries around the world are adopting regulatory 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 EU, which are weight-based. In many cases, there are regulatory inconsistencies when fuel-saving solutions under one system do not necessarily translate to another. Though harmonized standards among countries would be in the best interests of our customers and the environment, we realize development and acceptance of that could take years. That's why we favor mutual recognition agreements, a practice by which two or more markets agree to recognize each other's standards and eliminate costly and nonbeneficial redundancies.



The all-new 2017 Chevy Cruze diesel sedan.

### **Product Commitments**

During the past five years, GM has been working toward a set of product commitments related to CO2 emissions reduction, fuel efficiency and electrification. The terminal years for the U.S. commitments have been a 2016 and 2017 time period. While we successfully achieved our efforts to offer more vehicles achieving 40 mpg (see page 61) two years early, our progress in other areas has proven to be more difficult primarily due to a period of sustained low fuel prices. This market dynamic tends to weaken consumer interest in smaller, lower-emission vehicles, including hybrid and electric vehicles. There are similar dynamics impacting overall fleet emissions in Europe and China as well, though we have seen steady improvements in those product commitments.

We are now focused on establishing a new set of product commitments that tie performance more closely to our internal capabilities rather than market forces beyond our control. Such an approach mirrors that which we have taken with our 2020 manufacturing commitments where we have seen sustained progress and earlier than expected results in multiple areas. This tactic drives greater employee engagement, more organizational accountability and closer alignment with our business strategy – all of which results in meaningful progress.

### **Institutional Expertise**

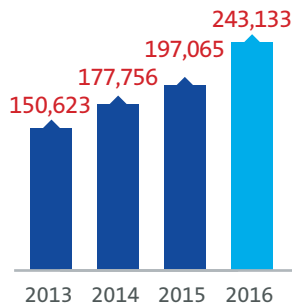
Our pursuit of the development of lower-emission vehicles reflects the dedicated efforts of one of the largest and most experienced teams of automotive engineering talent in the world. Within GM, we have institutionalized extensive governance processes that predict, plan, measure and monitor our fleet's fuel economy and emissions performance according to the established government test procedures on a dynamic and country-by-country basis. We dedicate significant resources and utilize an enormously complex algorithm to calculate the fuel economy of dozens of models sold across developed markets with increasingly stringent regulations, as well as emerging markets that are adopting similar regulations at a rapid pace. These calculations and the subsequent plans around them are an intrinsic part of our business that impacts nearly every operational function, from product development through delivery, on a daily basis.



# How We Measure Progress

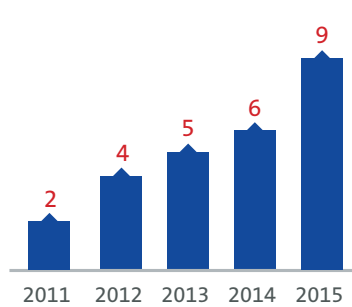
## Product Commitments

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



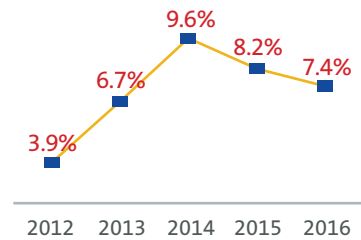
Our outlook currently projects us, along with the broader automotive industry, to fall short of expectations for 2017, due to market impacts of lower fuel prices and the increased saturation of electric model offerings in the marketplace.

**Double the number of U.S. models that can achieve EPA-estimated 40 mpg highway or better by 2017**



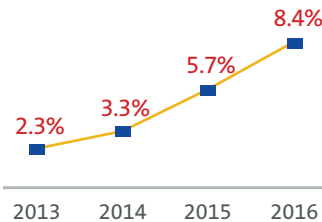
We have retired this commitment after meeting it two years early.

**Reduce average CO2 tailpipe emissions of U.S. fleet by 15 percent by 2016**



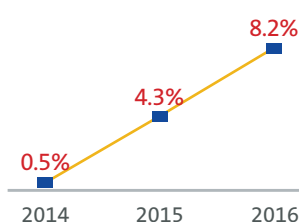
A period of sustained low fuel prices weakened consumer interest in lower-emission vehicles between this commitment's baseline year in 2011 and its terminal year in 2016, resulting in limited progress.

**Reduce average carbon tailpipe emissions of Opel/Vauxhall fleet by 27 percent by 2021**



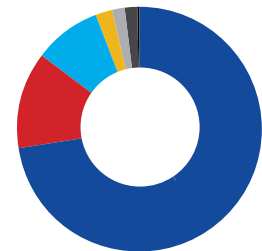
The glide path for both Europe and China comprehends that most gains will come from new product launches and technology introductions, thereby maintaining year-over-year progress.

**Reduce CO2 emissions of China fleet by 28 percent by 2020**



## EV Portfolio

### U.S. ELECTRIFIED SALES



Chevrolet Volt	24,739
Chevrolet Malibu	4,365
Chevrolet Spark	3,035
Buick LaCrosse	765
Chevrolet Bolt EV	579
Cadillac ELR	534
Buick Regal	45

## Lightweight Initiatives: Potential Savings

**28 Million**  
Fuel Gallons

**228,000**  
Metric Tons  
CO2 Avoided

**3,600 Pounds**  
Lost (average 350 per  
vehicle)

**11**  
Global Models With  
Some Form of Electrification



# Actions to Move Us Forward

## ADVANCED EFFICIENT FUNDAMENTALS

Efficient Fundamentals is our technology strategy to create leading-edge CO2 improvements and apply them in a cost-effective manner across products that rely on the traditional internal combustion engine, which represents about 96 percent of our portfolio today. This strategy attacks that challenge at the most fundamental engineering levels, such as vehicle weight, vehicle drag, engine downsizing, transmission and engine efficiency. In addition, the strategy counts systems integration and reduced complexity as foundational.

Over the past decade, making our vehicles more lightweight and stronger than ever has brought great benefits to our customers: Reducing mass by

10 percent improves fuel efficiency by about 5 percent. Our lightweighting advances can be seen in some of our best-selling models, including the 2017 GMC Acadia and the 2017 Buick LaCrosse, which shaved off 700 and 300 pounds, respectively.

In addition to saving our customers money and reducing our overall emissions, vehicles with more efficient designs and lighter-weight materials help GM to eliminate billions of dollars in material costs. Our global mixed-materials strategy allows us to incorporate the most appropriate materials for each part of the vehicle – such as high-strength steel, aluminum, carbon fiber and magnesium – to maximize the performance and minimize the weight of our vehicles. The results show in the Cadillac CT6, a true multimaterial vehicle that uses 11 different materials and grades in the body, 60 percent of which is aluminum with strategic use of high-strength steel.

Mass reduction is also being achieved through new proprietary and patented manufacturing techniques, such as industry-leading spot-welding technology that allows us to weld aluminum to steel, aluminum spot welding technology, self-piercing rivets, flow drill screws, friction welding and advanced adhesives. For model year 2017, our engineers developed a way to use aircraft-grade adhesives along the body's seams that are so strong and stiff that we're able to reduce the number of welds. As a result of deploying many of these techniques and others, we reduced the weight of GMC's Acadia by 700 pounds, and increased its fuel efficiency from 18 to 23 mpg.\*



2017 GMC Acadia

**↓ 700 LBS.**  
Lighter

**↑ 5 MPG\***  
Increased Fuel Efficiency

\* See all footnotes on page 169



# LIGHTWEIGHTING

GENERAL MOTORS LIGHTER AND MORE EFFICIENT LINEUP



**228k METRIC TONS**  
\*CO<sub>2</sub> potentially avoided in the atmosphere per year



**3,600**  
More than Lbs. lost - 350 lbs. avg. per vehicle

**28 MILLION**  
\*Gallons of fuel potentially saved per year

**48,282**  
passenger vehicles driven for one year

or

**547,804,139**  
miles driven by an average passenger vehicle

\*Internal estimates based on sales forecast and EPA estimated fuel economy values and EPA's greenhouse gas equivalencies calculator

### Engine Efficiency

Even as the world shifts to embrace electric vehicles – and we develop products like the Chevy Bolt EV to meet that market demand – gasoline is likely to remain the primary vehicle fuel for the foreseeable future. Accordingly, even more progress must be made toward increasing the efficiency of gasoline-fueled engines. To do so, we employ a suite of technologies, including downsizing, turbocharging, “stop-start” technology,

direct injection, variable valve timing and cylinder deactivation, to improve the thermodynamic efficiency of gasoline engines. These technologies are leading to a portfolio of GM engines that are considerably smaller, cleaner and more efficient than in the past, while maximizing usable power and performance characteristics important to our customers. For example, in the 2016 Chevrolet Camaro, turbocharging helps the standard 2.0-liter engine produce more power than the V-8 engines offered in Camaros from 1971-1975.



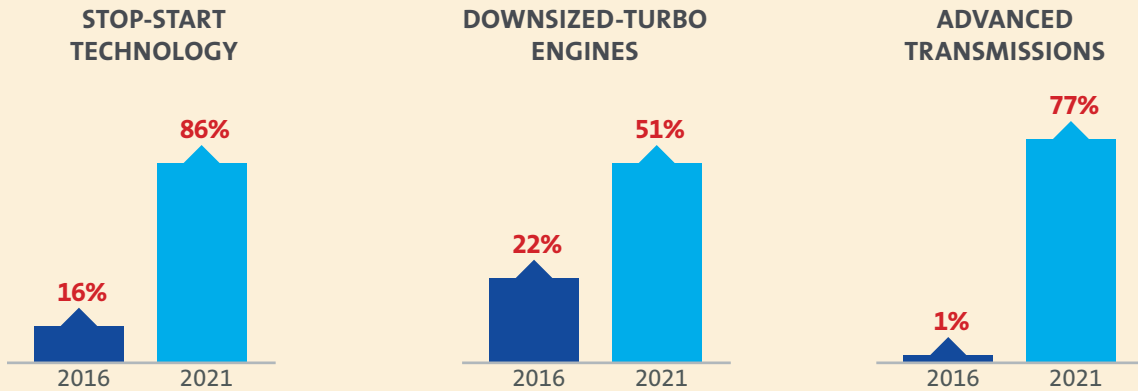
The 2017 Chevrolet Camaro

Our state-of-the-art, technologically advanced engine family lineup ranges from high-tech, 3-cylinder small gasoline engines to strong hybrids; and V-8 diesel engines to battery electric systems. We pair those engines with the latest transmission technologies to power a broad range of vehicles that meet the demands of drivers in every global market and at every price point. As we build and deploy more than 2.2 million of these



## An Unprecedented Expansion of Technology

Percent of Total Volume



vehicles across 27 models and five brands by the end of the 2017 model year, these technological advances will make the GM fleet among the most efficient across our markets, while reducing overall material usage, costs, and development time and expenses compared with the previous generation of engines.

### Deploying Higher-Speed Transmissions

Our efficient fundamentals strategy also encompasses automatic transmission technology, where more gears help increase fuel economy.

The 2017 Chevy Malibu is our first vehicle to feature a new 9-speed automatic transmission that balances performance and efficiency. The new Malibu boasts greater off-the-line acceleration as well as low-RPM highway cruising, and quieter operation. The 9-speed transmission, used in front wheel drive models, has helped the 2017 Malibu earn an EPA-estimated 33 mpg highway fuel economy, a 3 percent improvement over the previous model. The new transmission also supports stop-start technology, which can help save fuel by allowing the engine to shut down in most stop-and-go driving conditions. We will rapidly deploy the new 9-speed transmission on 10 models by the end of calendar year 2017, including on the 2017 Chevy Cruze diesel and the 2018 Chevy Equinox.

In 2016, we also unveiled a new 10-speed automatic transmission, used in rear wheel drive applications, in the 2017 Chevrolet Camaro ZL1 that brings performance and efficiency to new heights. The Camaro ZL1 is the first-ever application of a 10-speed transmission in a car, introducing a wider overall gear ratio and improvements in spin loss, which reduces engine speed on the highway and contributes to greater fuel efficiency. GM will have eight vehicles with the new 10-speed automatic transmission by the end of 2018.

We launched a partnership with Ford to continue developing next-generation 9- and 10-speed automatic transmissions. This marks an extension of our successful partnership to develop 6-speed transmissions that share common hardware, creating manufacturing economies of scale that

**15**  
Total number of models with Stop-Start Technology

2017 Chevy Malibu







reduce both companies' costs and speed the spread of fuel-efficient powertrains. We expect these new transmissions will continue to raise the standard of technology, performance and quality for our customers, while also helping drive fuel economy improvements into both companies' future product portfolios.

**Leveraging Electrification**

Our pioneering work in electrification also boosts the efficiency of our conventional engine fleet. We incorporate innovations into all of our vehicle classes, including our eAssist system, which is a mild hybrid technology that supports a range of vehicle sizes and power outputs and brings overall vehicle efficiency gains of up to 25 percent to the full-size Chevrolet Silverado and GMC Sierra pickup trucks and the Buick LaCrosse.

We also use Stop-Start technology, which helps customers conserve fuel by automatically shutting off the engine when the vehicle comes to a full stop, improving city fuel economy up to 14 percent, depending upon the application. Stop-Start technology is standard on both the Chevrolet Impala and Malibu base engines.

*Chevrolet offers the Chevrolet Silverado with eAssist technology. The mild hybrid system improves overall vehicle efficiency by 25 percent, including improvement of 13 percent in city fuel economy, according to EPA estimates.*



**EXPAND ALTERNATIVE FUEL FLEET**

There are many changes afoot in the automotive world, and one of the most important – if not often highly visible – is the dramatic shift toward alternative fuels among fleet managers. The U.S. Department of Transportation has developed an 85,000-mile-long series of “alternative fuel corridors” to support the continued expansion of electric, fuel cell, compressed natural gas (CNG) and liquefied petroleum gas (LPG). We are rapidly expanding our offerings to meet fleet managers' demands for alternative fuel vehicles that can reduce fuel consumption, fuel costs and emissions.

*The GMC Sierra is now available with CNG or LPG capable engines, as part of our effort to meet demand for cleaner, more efficient vehicles for fleets of all sizes.*

In 2016, we began a partnership with Power Solutions International to introduce heavy-duty pickups and full-size vans powered by 6.0-liter V-8 CNG- and LPG-capable engines, as well as CNG and LPG versions of our new Low Cab Forward commercial truck. Recognizing that there is no one-size-fits-all solution for fleet managers seeking alternative fuels, we will continue to expand and improve our offerings to meet the demands for cleaner, more efficient vehicles for fleets of all sizes.



## MAKE EVs FOR EVERYBODY

2016 marked the year when we cracked the code on EV affordability as we expanded our electric portfolio to include the Chevy Bolt EV. Named the 2017 Motor Trend Car of the Year, the 2017 North America Car of the Year and the 2017 Green Car of the Year, the Bolt EV changes the landscape of EVs to couple affordability and long range, offering an EPA-estimated 238 miles of full electric travel on a single charge.

We designed the Bolt EV from a blank slate with the goal of maximizing efficiency, performance, driver comfort and interior capacity. Our engineers developed an innovative single-pedal steering platform that allows drivers to choose on the fly how much energy they regenerate while driving and braking. We've developed a number of connectivity solutions to improve the EV experience, including driving range projections based on the weather, time of day, the driving landscape and your driving habits, as well as GPS mapping that designs routes to maximize range and provides locations of nearby charging station locations if needed. Each of these innovations will encourage more drivers to reap the benefits of all-electric driving.

The innovations and successes we've seen with the Bolt EV are the result of the expertise we developed with the Chevy Volt, which in 2016 crossed the 100,000 sales milestone in the U.S. We launched the second-generation Volt in 2015, featuring a 39 percent greater all-electric range, stronger acceleration and a 220-pound lighter body, thanks to our mass-reduction efforts. The Volt propulsion system was recognized for the second year in a row with a WardsAuto 10 Best Engines award.

The Volt and the Bolt EV are part of GM's growing portfolio of electrified vehicles, which includes our new Chevy Malibu hybrid that builds off the Volt's two-motor drive unit; the Cadillac CT6 plug-in hybrid electric vehicle (PHEV), which will soon be on sale in the U.S. and China, and the Opel Ampera-e, another EV aimed at the European market.



*The Bolt EV is the first vehicle conceived from the get-go by GM to be a viable, affordable mass-market electric vehicle. And it's a game-changer.*

*Motor Trend Car of the Year*



### An Award-Winning Debut

Motor Trend Car of the Year  
North America Car of the Year  
Green Car of the Year

*The 2017 Chevy Bolt EV*



## SUPPORT DEALER EV SALES

We believe electrification is the future of the automobile, but it remains a new technology for many of our dealers, as well as GM customers, who have plenty of questions about what EVs offer. This is why our launch of the next-generation Chevrolet Volt and the new Chevrolet Bolt EV have been preceded by several dealer educational opportunities.

The “Electric Avenue” indoor test track brought more than 3,500 dealership employees to a 350,000-square-foot track to experience the key features and sheer fun of driving our electrified lineup. In addition to comprehensive test drives, we convened “Chalk Talks” to educate dealership employees and answer their questions.



(Left to right) Customers Bobby Edmonds, William “Bill” Mattos and Steve Henry take delivery of the first three 2017 Chevrolet Bolt EVs at Fremont Chevrolet in California.

We also brought in-person trainings to dealers in 14 U.S. markets. These mandatory, in-depth trainings took place in conjunction with sales consultant trainings and were led by experienced EV salespeople who could speak to best practices and customer-driven insights that can get people excited about driving an EV.

## COMMIT TO FUEL-CELL TECHNOLOGY

We have been working on fuel-cell technology since its inception, and 2016 marked the 50th anniversary of the Electrovan, the world’s first hydrogen-powered fuel cell vehicle. The Electrovan was constructed using technology developed by NASA to meet President John F. Kennedy’s 1962 moonshot challenge. Floyd Wyczalek, who is now 92, worked on the original project, and recalls the 200-person team dedicated to making the Electrovan a reality. “We had three shifts of people on this project starting in January 1966 and finishing 10 months later,” Wyczalek said. “We had

one running demo for the Progress of Power press conference in October that year.”

After a couple of decades without active fuel cell work, GM resumed development in the 1980s and has since invested \$2.5 billion in fuel-cell technology. Today, we are among the leaders in fuel-cell patents. Our investment has led to innovations in the use of fuel-cell technology in nontraditional applications, as we have learned through GM’s partnership with the U.S. Army Tank Automotive Research, Development & Engineering Center (TARDEC).

*The Chevrolet Colorado ZH<sub>2</sub> fuel cell electric vehicle marries fuel-cell technology with extreme off-road capability.*



### Army Tests

The Chevrolet Colorado ZH<sub>2</sub> is a modified midsize pickup, standing more than 6 feet tall and 7 feet wide. It is reinforced inside and out, and rides on 37-inch tires and a specially modified suspension that helps the vehicle climb over and descend all manner of terrain. The ZH<sub>2</sub> runs on the same fuel-cell system that powered a fleet of 119 Chevrolet Equinoxes as part of Project Driveway, which amassed more than 3 million miles of real-world driving by more than 5,000 people between 2007 and 2010.



Beginning in 2017, U.S. Army testing will determine how well fuel-cell propulsion performs under the extremes of daily military use. Among the features included are an Exportable Power Take-Off (EPTO) unit that allows the fuel cell to provide a continuous 25 kW of power and a peak of 50 kW away from the vehicle, enough to power a small hospital. The fuel cell's near-silent operation capability, reduced acoustic and thermal signatures, low fuel consumption and capability of generating 2 gallons of water an hour from water-vapor emissions are among the appealing characteristics for military and commercial use and also could be relevant in a future consumer application.

GM's strategy is focused on nontraditional land, sea and air applications. During 2016, we announced a fuel-cell demonstration project to power an unmanned underwater vehicle (UUV) for the U.S. Navy. Testing continues to determine whether fuel-cell propulsion will allow for longer

times at sea without refueling. We also are looking into aerospace applications, such as providing emergency power on commercial aircraft. Until the infrastructure for hydrogen technology becomes more robust, projects such as the ZH<sub>2</sub> demonstrator and the UUV are providing opportunities to learn whether these alternatives and others can make business sense.

#### **Honda Joint Venture**

In late January, following three years of collaboration, GM and Honda announced that they would form Fuel Cell Manufacturing System LLC, a 50-50 joint venture to provide both companies with fuel cells for multiple applications in the 2020 timeframe. Production will be based at the same Brownstown, Michigan, facility where GM assembles battery packs for electric vehicles. GM and Honda are pooling their intellectual property, and will each receive output from the plant.

*Inside the rear hatch of the Chevrolet Colorado ZH2 fuel cell electric vehicle is an Exportable Power Take-Off unit, capable of providing 25 kW of consistent electric power away from the vehicle in remote locations where electric power may otherwise be unavailable.*

**Beginning in 2017, U.S. Army testing will determine how well fuel-cell propulsion performs under the extremes of daily military use.**



# Q&A

## WHY FUEL CELL? A CONVERSATION WITH CHARLIE FREESE, EXECUTIVE DIRECTOR, FUEL-CELL BUSINESS



**Q** How do you best describe the strategy for fuel cells at GM?

**A** Fuel cells are part of GM's advanced propulsion strategy, which includes core technologies and advanced propulsion solutions, such as battery electric vehicles (BEVs) and fuel cell electric vehicles (FCEVs). Each technology has a range of vehicle applications and customer requirements ideally positioned to satisfy customers. GM is developing fuel-cell technology as a way to propel larger vehicles that travel longer distances at higher speeds. With the ability to refuel in approximately three minutes, fuel cells become the fast-charging electric vehicle solution.

**Q** What are the advantages of fuel cells beyond a gasoline-equivalent refueling time?

**A** Fuel-cell systems generate approximately 2 gallons of water vapor every hour and low-grade heat that can be used to warm passenger compartments. With appropriate power conditioning systems, the fuel cell can generate 25 kW continuous (50 kW peak) power, while serving as a mobile generator. Because the vehicle stores electrons in the form of hydrogen, it can be fueled by a wide range of energy sources, including wind, solar, natural gas, grid electricity, coal, landfill or sewage bio-gas, or reformed petroleum fuels. This offers great capability to fully integrate mobile power and propulsion system assets with an integrated smart electric grid and the broader energy ecosystem.

**Q** Fuel-cell research has been underway for decades. What is happening with the cost?

**A** GM's investment in fuel cells is focused on evolving the design through multiple cost-reduction learning cycles on a pathway for commercialization. While we have made dramatic progress in reducing costs by orders of magnitude for higher volume production, the technology already

uniquely satisfies many specialized power generation needs such as military scout vehicles, robotics, unmanned undersea vehicles, stationary/mobile power generation and aircraft, where fuel cells provide low-emission, quiet power, with many useful byproducts. Further cost reductions will be achieved by maximizing manufacturing scale economies.

**Q** Where does a production passenger vehicle figure into this strategy?

**A** As a vehicle manufacturer, GM is pursuing ways to leverage fuel-cell propulsion system capabilities to address electrified propulsion, zero-emission vehicle requirements. Automotive applications establish scale economies that provide an affordable design that can be adapted to a wide range of nonautomotive applications. The rigor and disciplined execution of an automotive program environment helps establish reliable, high-quality propulsion system components. By partnering with other OEMs, GM is sharing development costs to accelerate production volumes.

**Q** Has the popularity of the Colorado ZH<sub>2</sub> made it a candidate for production?

**A** GM is always evaluating how its vehicle architectures and technology portfolio could apply to a range of public and nonpublic commercial opportunities on land, under the sea and in the air. The ZH<sub>2</sub> is a fully functional demonstration vehicle that the Army will use to evaluate fuel-cell technology in an off-road application. It will be tested under extreme conditions that will help characterize the performance and utility of ZH<sub>2</sub>'s aggressive off-road suspension, fuel cell electric powertrain and other functionality, such as exportable power takeoff. GM is committed to developing fuel-cell solutions for both automotive and nonautomotive applications, but we are not making any production announcements at this time.



## CHAMPION EV MARKET GROWTH

Growing next-generation automotive markets for technologies such as fuel cells and plug-in EVs is more than any one company can achieve on its own because this challenge extends far beyond vehicle technology. Increasing the demand for these nontraditional products requires strategies that address new fueling infrastructures, enabling market and policy incentives, and EV education and awareness-building initiatives. GM has long partnered with our private-sector peers, government agencies and a wide array of other stakeholders to address the barriers to EV adoption and help grow consumer demand.

For the past decade, GM has been driving partnerships and collaborative efforts across a vast network of stakeholders to drive EV market growth. These efforts have included supporting harmonized industry standards, electrician training programs, advocacy for supportive state policies, utility engagement, sustainable infrastructure solutions and EV awareness-building campaigns. GM has played a constant and leading role in encouraging all stakeholders to do their part to energize the EV market.

To ensure leadership-by-doing and to demonstrate to GM employees our commitment to a growing EV market, GM is a founding member of the Department of Energy's Workplace Charging Challenge, which seeks to persuade employers to commit to provide EV charging access to employees through partnership, advocacy and promotion. Today, we total more than 500 EV charging stations at our U.S. production and business facilities, spurring the growing adoption of EVs by our employees. These conversations set the stage for market alignment among business, technical and regulatory interests and offer future market opportunities such as vehicle-to-grid integration.

In 2016, we joined 45 auto-industry peers as proud signers of the Guiding Principles to Promote Electric Vehicles and Charging Infrastructure, a commitment to the collaboration between the government and industry to increase consumer access to electric vehicles and charging infrastructure. Based on our experience strategizing EV infrastructure, regulatory and policy enablers, and consumer education and outreach with utilities, regulators, state agencies and EV stakeholder groups, GM is committed to

*Britta Gross, Director of Advanced Vehicle Commercialization Policy at GM, spoke to a room of more than 500 sustainability professionals at the Ceres Conference about moving electric vehicles into the mainstream.*





deepening the partnerships and collaborative relationships that are needed to successfully drive EV adoption into the mainstream.

Our EV advocacy extends beyond traditional EV-enthusiast groups, as well. In 2016, Britta Gross, our Director of Advanced Vehicle Commercialization Policy, spoke to 500 corporate sustainability

professionals at the annual Ceres conference in Boston to highlight the big role companies can play in advancing EV awareness and adoption. Whether it is by adding charging stations in their parking lots or determining how EVs can fit into corporate vehicle fleets, companies of all sizes can help shape an electrified transportation future.

## Engaging With Partners & Stakeholders to Promote EV Market Growth

In addition to these activities and illustrative partners, GM and The Electric Power Research Institute have worked with more than 50 utility partners since 2007, representing the largest existing auto-utility collaborative effort.



### Education & Awareness

Plug In America, Clean Cities, Sierra Club, Edison Electric Institute



### Legislation & Incentives

Georgetown Climate Center, Electric Drive Transportation Association



### Analysis

National Renewable Energy Laboratory, University of California Davis, Idaho National Laboratory



### Industry Standards

Argonne National Laboratory, National Fire Protection Association, New York State Energy Research & Development



### Infrastructure

National Electrical Contractors Association



### State Task Forces

Drive Oregon, Drive Electric Ohio, Drive Electric Vermont, Plug In Michigan



## TALENT

Aspiration: Realizing Everyone's Potential





# What We Aspire To Do

## REALIZING EVERYONE'S POTENTIAL

In order to stay competitive and relevant as a company, we must attract and retain the brightest talent around the world. Today, we compete for that talent against other automotive companies and, increasingly, against businesses in other sectors such as technology. To win and keep talent, we must provide a workplace culture that encourages the development of our employees' full potential, fulfills their long-term individual aspirations and achieves full engagement. We also are mindful that our global customer base is diverse. Our global workforce must reflect that diversity and possess a diverse set of insights, skills and experiences in order to meet our customers' needs.

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# Our Management Approach to Talent

## Engaging to Build the Workplace of Choice

We strive every day to engage our employees in a meaningful way so that we may further instill our Purpose and Values into our global workforce. GM's approach to employee engagement is simple: Generate a positive work environment to drive long-term success by creating a place where employees feel inspired to do their best work and feel valued for doing it. We know that top talent is attracted to companies that are recognized externally for being among the best or most admired in the world. What employees say, why they choose to stay and whether they choose to give their best at work is unique to each individual and is part personal, part professional.

Today, we are strengthening our corporate culture by giving GM employees five things they need, not only as employees, but also as individuals:

- To be valued and to do valuable work.
- To make their time count rather than to be counted.
- To know that their leaders know how much effort their work takes.
- To know what skills will keep them in critical roles or what roles are giving them critical skills.
- To be provided with the truth behind business decisions and strategy rather than protection from change.

Our objective is to create a workplace of choice built on dimensions that are consistently demonstrated by best-in-class companies: teamwork, fairness, trust, growth, commitment, recognition and impact.

Career development remains one of the top concerns for our employees around the world. We continue to increase the number and variety of career resources available to help employees grow their careers within GM. Formal performance management and individual tools for employees to use on their own are helping us address employee engagement, retention and development.

### Key Takeaways

- » Employee engagement is a key enabler of long-term business success.
- » We compete for talent and know that top talent is attracted to workplaces that are among the most admired and considered best-in-class.
- » Dimensions consistently demonstrated by best-in-class companies – teamwork, fairness, trust, growth, commitment, recognition and impact – are qualities GM cultivates every day.
- » Career development is a top concern of employees and a priority for GM.
- » Diversity and inclusion are integral to building a workplace of choice and supporting business success.

**An Inclusive Culture**

An integral part of GM's mission to build a workplace of choice is creating an inclusive culture that welcomes and celebrates a diverse workforce. Our employee surveys regularly reveal the high value that people at every level of GM place on diversity in the workplace, which is why we have established employee development programs that address both individual and business needs, as well as effective recruitment programs that reach out to diverse populations.

Not only do these wide-ranging outreach efforts help us build the type of workforce we all desire, but they also serve an important business purpose. A recent McKinsey & Company study found that

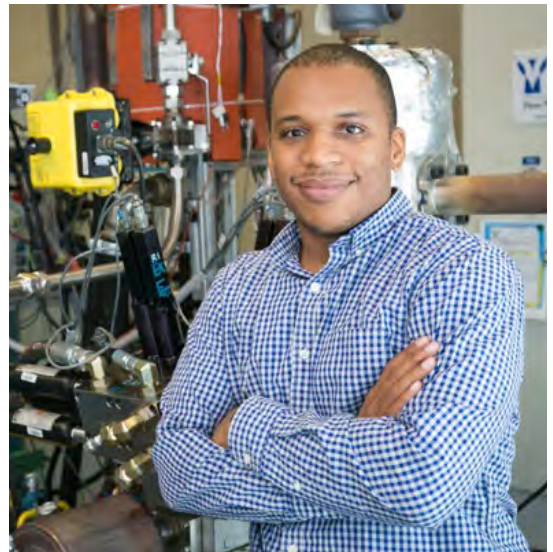
the most diverse companies by gender, race and ethnicity are far more likely to outperform their less diverse industry peers. We believe that our ability to meet the needs and expectations of an increasingly diverse and global customer base is tied closely to diversity and inclusiveness within.

To this end, we are focused on:

- Finding and growing the best and brightest talent from around the world.
- Capitalizing on new and emerging markets.
- Leveraging the different traits and attributes inherent in our workforce.

The GM Executive Leadership Team, chaired by our Chairman & CEO, serves as the company's senior diversity council. Other diversity-focused councils within our organization include: Supplier Diversity Council, Employee Resource Group Leader Council, Disabilities Advisory Council, Minority Dealer Development Council, Women Dealer Development Council, Eyes Right (Veterans Council) and the ERG Executive Champions Roundtable. Further, our Global Chief Diversity Officer chairs the Strategic Diversity Working Group, which aligns all D&I efforts globally and incorporates inputs from marketing, communications, corporate relations/ philanthropy, talent acquisition, public policy and legal. Additionally, GM's diversity initiatives are routinely reviewed with the executive leadership team and the Board of Directors.

*Diversity and inclusion are integral to building a workplace of choice and supporting business success.*





### Workplace Safety

A safe workplace is critical to creating safe vehicles. The safety of our employees, contractors, suppliers and everyone who visits a GM location anywhere in the world is paramount. We are committed to industry leadership in the field of global workplace safety.

In 2016, we heightened our focus on workplace safety, starting with the appointment of a first-ever Vice President of Workplace Safety who reports directly to the Chairman & CEO. With a priority of creating a global safety culture and mindset that drives safe behaviors whether you're at work, in your vehicle or at home, we are demonstrating how that mindset applies to every job, every site and every person in our company.

This effort is guided by a vision which mandates that we live values that return people home safely. Every person. Every site. Every day. The five strategies to help us achieve this vision are:

- Implement fatality prevention to drive and sustain ZERO fatalities. Focus on behaviors to drive for zero injuries.
- Sustain a safety system to assure compliance with regulations and conformance to GM standards.
- Drive risk identification, mitigation and elimination.
- Leverage personal accountability and safety branding to transform our safety culture.
- Utilize continuous improvement tools and technology to eliminate waste and drive business value.



Promoting a culture of safety is a priority in GM facilities across the world.



STRATEGY	HOW
<ul style="list-style-type: none"> <li>• Goal: No Injuries</li> <li>• Foundation: It's Personal, Own It!</li> <li>• 24/7: Every Person. Every Site. Every Day.</li> <li>• Top Leadership</li> <li>• New Hires</li> <li>• Middle Leadership</li> <li>• Acquiring Technical Expertise</li> </ul>	<ul style="list-style-type: none"> <li>• Behaviors</li> <li>• Top 5 Risks</li> <li>• Consistency</li> <li>• Tool Kits</li> <li>• Communications</li> <li>• Training</li> <li>• Inside Mentoring</li> <li>• Reward/Discipline</li> <li>• Staffing</li> </ul>

Our workplace safety strategy is based on cultural transformation throughout the organization.

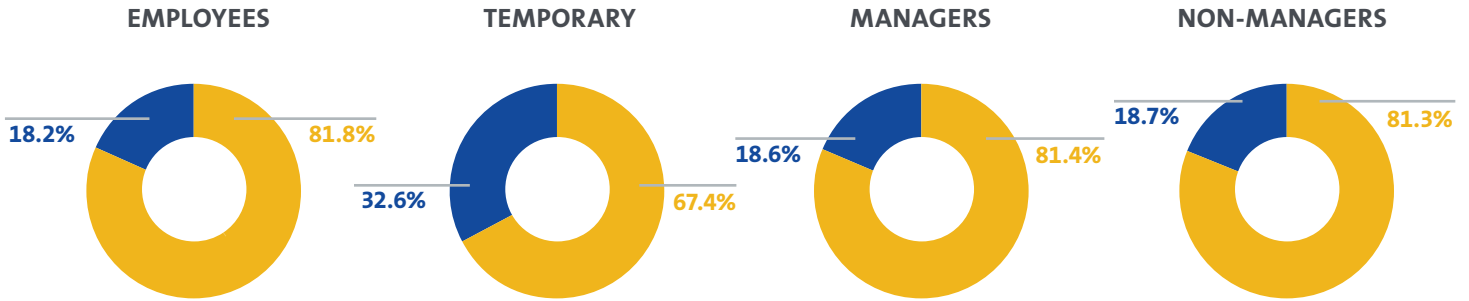


# What We Measure

## Global Workforce Data

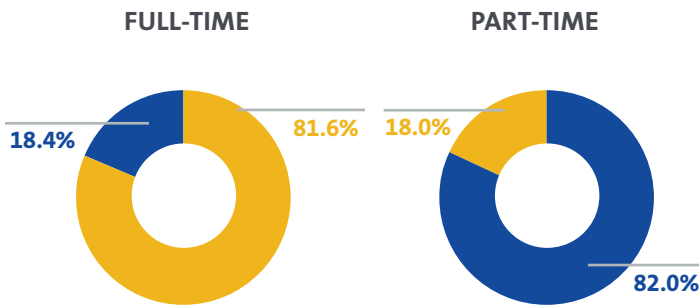
### Global Workforce by Type

Men Women



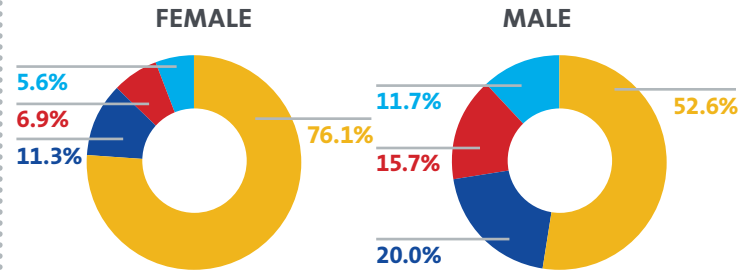
### Employees by Employment Type

Men Women



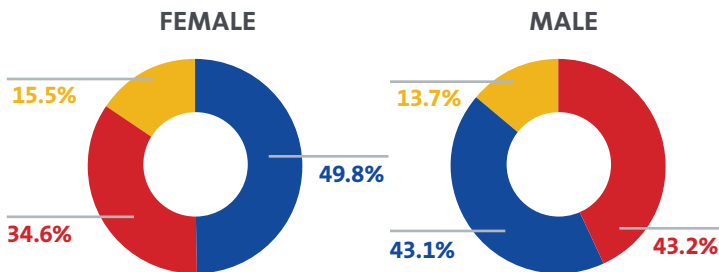
### Global Workforce by Gender

North America Europe International South America



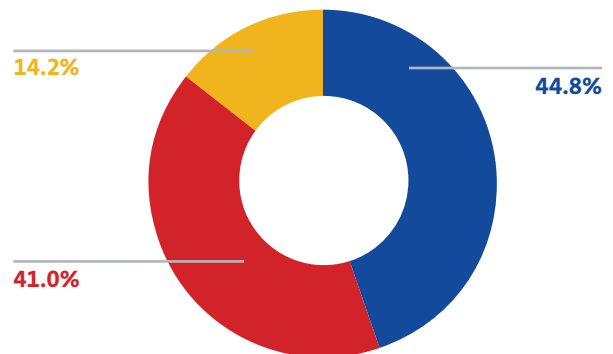
### U.S. Workforce by Age Group

Under 30 30-49 50 and over



### Total U.S. Workforce by Age Group

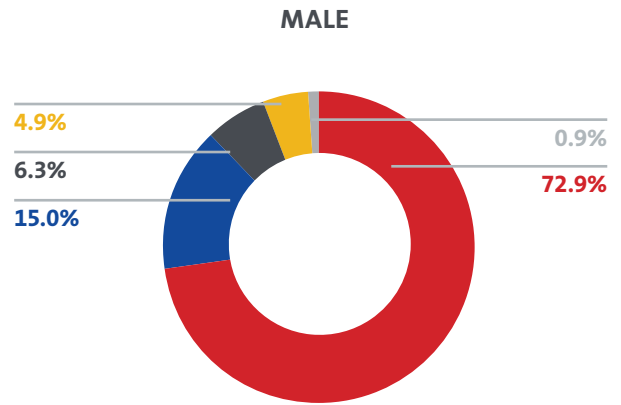
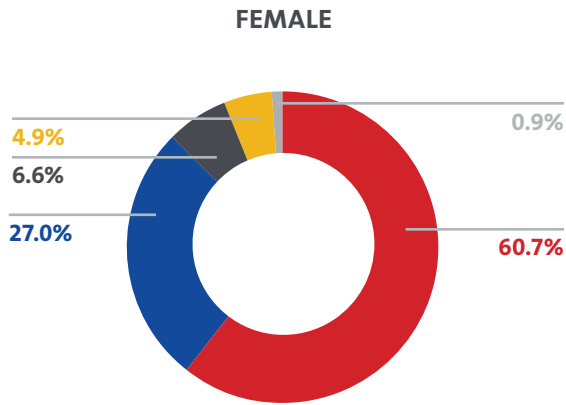
Under 30 30-49 50 and over





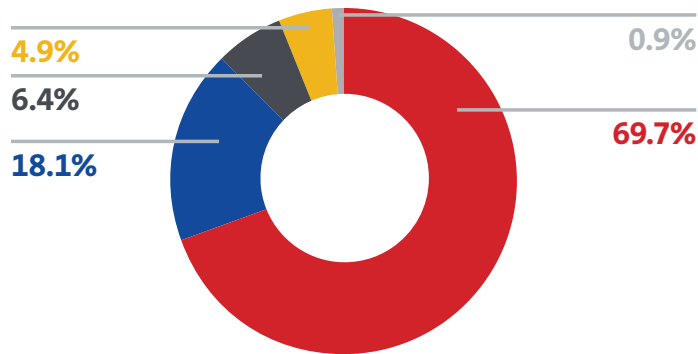
### U.S. Workforce by Ethnicity

White Black Asian Hispanic NtHw/Pclsl/American Indian/Two or More Races



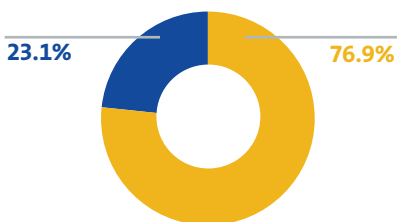
### Total U.S. Workforce

White Black Asian Hispanic NtHw/Pclsl/American Indian/Two or More Races



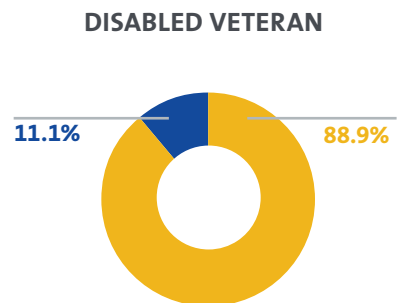
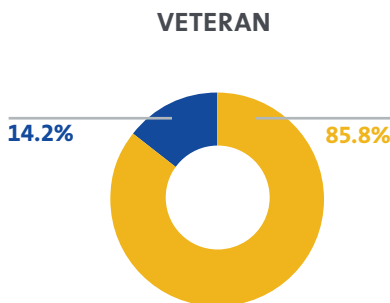
### U.S. Workforce Self-Identified as Having Disability

Men Women



### U.S. Workforce by Self-Identified Veteran Status

Men Women





# Actions to Move Us Forward

In 2016, a STEM hire was made every **26** minutes

## STRENGTHEN RECRUITING EFFORTS

The hiring and retention of top talent is always a strategic priority and, increasingly, a challenging one. The current strong economy and heated job market means that the best-qualified candidates are likely entertaining multiple job options. In 2016, U.S. job openings were at their highest levels ever, and unemployment was at its lowest level since 2008. In addition, our increasing focus on technologies such as connectivity, autonomous and artificial intelligence, to name a few, requires us to compete not only against other automotive companies but leading companies from the technology sector, as well.

As a result, we've stepped up our recruitment efforts to win "the war for talent" and ensure that the best and brightest land at GM and stay. Initiatives in 2016 included:

- Restored recruiting efforts to our own internal talent acquisition teams where the ability to convey GM's initiatives, strengths and stories is first hand, personal and engaging.

- Launched Made for More Employee Value Proposition (EVP).
- Increased social media outreach through Facebook, LinkedIn and Twitter.
- Revised all applicant correspondence to reflect new branding.
- Launched Take 2 internship program for parents, caregivers and/or trailing spouses with backgrounds in engineering, manufacturing and other technical areas, who have been out of the job market for more than two years.
- Partnered with SoFi – the first automotive company to do so – to help eligible U.S. employees refinance student loans.
- Expanded our paid parental leave to include all salaried employees in the U.S., offering mothers, fathers and adoptive parents two weeks of paid leave.

## Improved Recruiting Results

**95%↑**

Referrals to career website via social media

**24%↑**

Global job applicants

**40%↑**

Employee applications since launch of Made for More brand

**103%↑**

Job applicants from Silicon Valley



## PLEDGE TO SUPPORT EQUAL PAY FOR WOMEN

GM has long been a global leader in advocating for women’s equality in the workplace, with women in nearly 32 percent of our top management positions. In 2016, we joined with 28 other forward-thinking businesses in signing the Equal Pay Pledge. The pledge reflects the value we place on gender equity, our commitment to fostering a diverse and welcoming workplace that values the contributions of all employees, and our shared belief that employees’ gender should not factor into compensation decisions. We believe that fair and equitable pay should be an essential element of any successful business model, and we are proud to stand with other companies that share this same value.



### Take 2 Internships

One of the biggest obstacles facing women’s careers in the U.S. is the difficulty in taking time off work to raise children or care for family members, only to try to break back into the workforce several years later while facing an experience disadvantage. That’s why GM in 2016 launched our groundbreaking Take 2 project. This 12-week internship is for women, as well as men, with technical backgrounds in vehicle engineering, manufacturing engineering or manufacturing operations. The program provides training, professional development and networking opportunities to give them a head start in refreshing their skills, building their professional networks and securing long-term employment while working on GM engineering programs. Our first cohort of 10 engineers took part in Spring 2016, nine of whom are

*As Executive Vice President of Global Manufacturing, Alicia Boler-Davis is responsible for the operations of every GM factory in the world.*



*GM Vice President for Urban Mobility Programs Julia Steyn’s mission is to shape the future of personalized on-demand mobility services like Maven, GM’s new car-sharing service.*

now employees, and interest in the program more than tripled in time for the Fall 2016 cohort.

### Women in Leadership

GM has received much attention for being the first automaker to appoint a female CEO, but it also should be noted that, across GM, women hold key leadership positions – from global manufacturing to urban mobility solutions – and hold prominent roles in every market where we operate. These women reflect the strong emphasis we place on preparing women for leadership roles.

Our Executive Leadership Program in the U.S. focuses on further development of leadership capabilities of executive-potential women and to build a support network of women leaders. The program targets “ready now” female leaders already in executive positions with 5 to 12 years of managerial experience. Four leadership attribute categories frame the focus area for the program: self-awareness, self-management, social awareness and relationship management. The training and development sessions in 2016 – hosted by female executives from different areas of the business – marked the third year of GM’s five-year plan to increase workforce diversity, with a heavy emphasis on women’s equality in the workplace. This year, we made great progress on a number of fronts.

We are proud of the many women who hold leadership positions across GM, and in 2016 we took another step to encourage women to climb the ladder. Our Executive Presence for Women seminar brought together 300 women to learn how they can elevate their status in the workplace, earn trust and respect and navigate their path to career success.





As part of our veteran recruitment efforts in the U.S., we work with "Hiring Our Heroes" to help find jobs for returning veterans and their spouses.

## SUPPORT VETERANS' CAREER AMBITIONS

Increasing the number of military veterans in our workforce has been a strategic focus of our diversity and inclusion efforts in recent years. Our veterans' employee resource group has been integral to this effort

by creating positive, lasting relations with veteran communities, union partners and organizations, while striving to make GM a workplace of choice for current and former military personnel.

In 2016, 5.4 percent of all new hires in the U.S. were veterans, and we continue to support several training and recruitment programs for veterans, including:

- The U.S. Chamber of Commerce Foundation's "Hiring Our Heroes Program," a national grassroots effort to find jobs for returning veterans and their spouses.
- The "Veteran Jobs Mission," a coalition of private-sector businesses dedicated to hiring 1 million veterans by 2020.
- The Shifting Gears Program that trains current military members to become certified technicians prior to leaving service.
- Free training to all veterans through our Service Technical College.

We also launched in 2016 a unique partnership with American Corporate Partners to give GM employees the opportunity to mentor veterans who are returning to civilian life and help them pursue their career ambitions. Although our military veterans are warmly welcomed home upon the end of their service, they rarely receive the support they need to successfully rejoin the workforce. We invite GM employees to make a one-year commitment to share their professional wisdom with those who sacrificed to serve our country. To date, we have launched more than 25 mentoring partnerships through this initiative.

### Navy Employer of the Year

Our history of dedication to veterans resulted in GM's earning a Navy Employer of the Year award, a prestigious award that is available only to companies that are nominated by their employees. John Jackson, a packaging engineer in our Bowling Green facility, nominated GM for the award after the exceptional support he received upon getting his short-notice deployment orders as part of the Navy Reserve. Our Bowling Green team expedited hiring a temporary replacement while Jackson served his deployment in the Republic of Djibouti in northeastern Africa. GM was one of just 37 companies to receive the award in 2016.

## INCREASE EMPLOYEE ENGAGEMENT

We pride ourselves on being a workplace where employees are valued and relationships matter. The Global Workplace of Choice survey allows us to gain feedback about our progress toward becoming a workplace of choice around the world – and now it's providing more informative insights than ever before.

Before 2016, the survey included only salaried GM employees, who make up only a third of our workforce. We recognized the need to conduct a survey that more accurately represents all of GM and, this year, expanded the survey to hourly workers. Two-thirds of our employees – including 86 percent of salaried employees and 52 percent of hourly workers – opted in to participate. All



participants were surveyed at once, giving us precise insights into the pulse of our organization. Cross-functional collaboration among our global information technology, human resources, labor, manufacturing and communications teams turned the survey into an “event,” encouraging employees to participate.

Engagement levels for salaried employees improved 50 percent from 2012 to 2016, and overall employee engagement levels at GM, including hourly workers, who participated in the survey starting in 2016, are now significantly above the global average. Our goal is to be nothing less than a global best employer.

We also gained valuable input on areas in which employees need more support such as:

- Personal growth and development, including health and well-being.
- Recognition, pay and benefits.
- New-hire integration.

To address these concerns, GM is identifying what actions are meaningful to employees in terms of work-life balance and continuing our conversation on culture. We are also investigating means for leaders and peers to recognize contributions at the local team level. As GM shifts from a vehicle company to the world’s leader in mobility solutions, rapid integration into local team cultures will be critical. We are seeking ways to improve the effects leaders have on the engagement of teams they lead. With these improvements, we hope to support engagement of all employees, everywhere in the world.

## 2016 Workplace Awards

- » Best Place to Work for LGBT Equality, Human Rights Campaign
- » Top 100 Ideal Employers, Universum
- » Best for Vets: Employers 2016 Ratings, Military Times
- » Top 100 Company, Military and Military Spouse Friendly Employers
- » 50 Best Companies for Latinas to Work, Latina Style
- » 2016 Top STEM Workplaces, Winds of Change and the American Indian Science and Engineering Society
- » Best of the Best, National Business Inclusion Consortium
- » Top 50 Employers (#3), Minority Engineer
- » Top 50 Employers (#23), Equal Opportunity
- » Top 50 Employers (#31), Women Engineer
- » Top 50 Employers (#14) CAREERS & the disABLED
- » Top 50 Employers (#4), Workforce Diversity
- » 2020 Honor Roll, 2020 Women on Boards
- » Top Employer China 2016 Certification, Top Employers Institute
- » Top 10 Super Companies, GM Mexico
- » Investors in People Gold Award, Vauxhall Motors
- » Top United Kingdom Employers, Vauxhall Motors
- » Top 100 Employers, GM Canada
- » DiversityInc. Top 50



GM Flint employees react to the announcement of the new \$877 million body shop investment at Flint Assembly.

## REALIZE THE GM2020 VISION

Behavioral change starts at the top, our Chairman & CEO Mary Barra believes, and leaders should constantly work to influence and improve company culture. That’s why GM’s senior leadership team gathers offsite for two days to discuss the cultural traits they are modeling for the rest of the business.

GM employees had a similar experience in summer 2016 as attendees at the annual GM2020 Summer Summit in partnership with Community Outreach. “Doers Who Make a Difference” was the theme of the event, held in Detroit and attended by 250 employees. During the two-day summit, employees were challenged to discover the



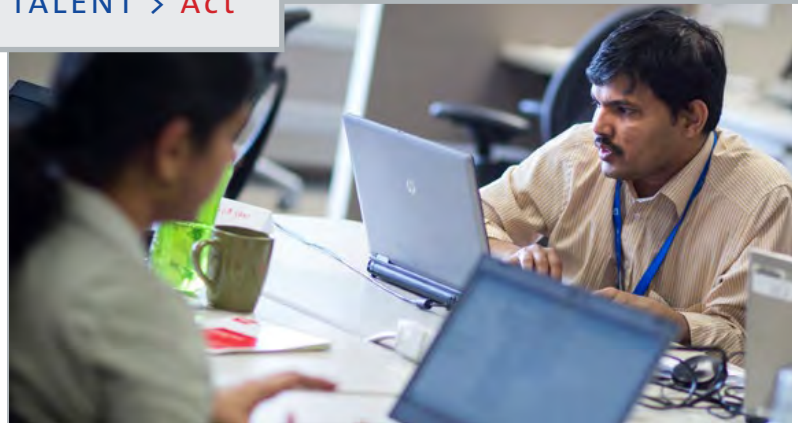
difference they could make as individuals in their communities and their company.

Barra made a surprise appearance, encouraging employees to live the “GM2020 Values,” which include:

- Be Bold – Speak up with ideas that will push the company farther.
- Find a Friend – Don’t wait for the world to change. Find another person who thinks similarly and start collaborating. Then find others who think like you.
- Listen Intently – Practice empathy, trying to take others’ points of view.
- Ask Why – Go beyond the surface and don’t be afraid to challenge assumptions.
- Charge into Conflict – Don’t hesitate to disagree. Disruption breeds innovation.
- Follow the Energy – Find where things are working well, and use this momentum to improve.
- Think Big, Start Small, Scale Fast – Change often stalls when we try to solve everything at once. Instead, start with a few small things within your control.

GM2020 is an initiative to make GM a place everyone wants to work at by the year 2020. As GM evolves from an automaker into a mobility solutions provider, it must compete for talent with companies like Alphabet, Apple and Uber. GM2020 is an important way of bringing a startup-like mindset to a corporation that’s been around for more than a century. It’s supported by the resurgent popularity of the city of Detroit, especially among millennials, and our prediction that a third of our salaried workforce will turn over in the next five years.

*Problem solver and Lead Development Engineer for Battery Electric Vehicles Trista Schieffer helps ensure parts and systems are integrated properly so vehicles perform in the manner customers expect.*



## BUILD A DIVERSE WORKPLACE & INCLUSIVE CULTURE

We understand that diversity is our strength and are committed to an inclusive work environment that encourages everyone to bring their whole selves to work. We view diversity as a critical business imperative, as it helps us attract and retain talent, build and expand relationships with more customers and maximize the potential of our most important asset – our people.

Today, GM continues to be among the most diverse automotive employers globally, from the board room to the plant floor. In 2016, half of the members of our Board of Directors were women and/or ethnic minorities, making us a leader among the Fortune 100. In addition, our corporate officers comprise 26 percent women and minorities.

Our 225,000-plus employees work in nearly 400 facilities on six continents across 23 time zones and speak 70 languages. From designing and engineering state-of-the-art products for global markets to building relationships in the communities where we live and work, we value our GM team members for their unique contributions.

We have completed the third year of a five-year plan to further increase workforce diversity. With an aggressive focus on women and minorities in STEM disciplines, GM is on track to meet its 2018 targets. In 2016, 35 percent of all U.S. hires were minorities, and more than 27 percent of all global hires were women.



With new Office of Federal Contract Compliance Programs guidelines in place, we are building on our efforts to hire veterans and people with disabilities in the U.S. We are among six Fortune 500 companies participating in a three-year pilot initiative to recruit, hire, develop and retain persons with disabilities. As a member of the “Going for Gold” disability hiring initiative, we have already exceeded our hiring target of 190 people.

In order to build an inclusive workforce, we must understand its needs. In 2016, we introduced a new ethnicity self-ID tool for U.S. salaried and hourly employees. The voluntary self-reporting tool expands on the other self-ID options currently offered by the Veteran Status, Disability Status and Sexual Orientation/Gender Identification tools. Encouraging our employees to share their backgrounds and experiences helps GM consider their needs and opens dialogues to a more inclusive work environment and culture.

**Employee Resource Groups**

Our employee resource groups (ERGs) play a key role in fostering an inclusive place to work. These groups provide a forum for employees to share common concerns and experiences, gain professional development support and engage in local communities. Approximately one-third of GM employees are involved in one of our 12 ERGs – which include groups consisting of African-Americans, Hispanics, veterans, women, LGBT employees, Native Americans, GM Able and more. These ERGs have created chapters in our facilities throughout the world.

All ERGs are working toward our corporate effort to make GM a workplace of choice. ERGs provide us with insights that help us better understand diverse and emerging consumer markets, while offering a platform for our employees to contribute to diversity initiatives within our community. Each GM ERG also has a business plan tied to talent acquisition, talent development, community outreach and business support. Learn more about our ERGs in our Diversity & Inclusion Report [here](#).



**Dealer Diversity**

We also encourage diversity among our dealers. With nearly 20,000 dealers worldwide, our dealerships are integral to the distribution of our products and serve as the local face of GM in communities around the world. Our GM Dealer Development organization is responsible for managing diversity in our dealer network, creating a profitable network across all GM brands that reflects consumer diversity in the U.S. The GM Dealer Development organization’s programs focus on supporting dealerships owned by minorities and women, as well as identifying and developing promising women and minorities to become GM dealership owners and operators. GM currently has the largest number of minority and women dealerships in the industry, with nearly 500 dealers, representing 11 percent of GM’s dealer network. This program is critical to our commitment to grow a dealer portfolio that reflects the diversity of GM’s customer base.

**Supplier Diversity**

GM’s Supplier Diversity Program is focused on developing and growing a competitive, diverse supply base that can thrive in the marketplace. We were the first automotive company to establish a formal Supplier Diversity Program in 1968 and since then have received many accolades for our record of setting industry standards. Over the past several decades, GM has spent more than \$90 billion with diverse suppliers, including about \$7 billion in 2016. We are one of 20 members of the Billion Dollar Roundtable (BDR) that leads, influences and shapes supplier diversity globally. The BDR was created in 2001 to recognize and celebrate corporations that achieved spending of at least \$1 billion annually with minority- and woman-owned suppliers. The BDR promotes and shares best practices in supply chain diversity excellence. GM has been a member of the BDR since its inception.

*Jessica Moreno, a Vehicle-to-Vehicle Security Credential Management program manager, is helping to shape the technology cars use to talk to each other when avoiding crashes and other unwanted situations on the road.*

**1/3**  
of GM  
employees are  
involved in one  
of our 12 ERGs



## MAINTAIN STRONG RELATIONSHIPS WITH OUR UNION PARTNERS

**74%**  
of our global workforce is represented by unions and covered by collective bargaining agreements

We respect our employees' right to freedom of association in all countries and comply with our obligation to satisfy all local labor laws and regulations. GM works with about 40 unions globally, representing approximately 74 percent of our global workforce covered by collective bargaining agreements. GM's relationships with labor unions are generally healthy and stable business partnerships. Consistent with our respect for employees and their bargaining representatives, we have worked collaboratively with our union partners to realize significant increases in performance.

GM is a signatory to the United Nations Global Compact (UNGC), which calls upon companies to align their strategies and operations with universal principles on such matters as labor, human rights, the environment and anti-corruption. As a UNGC signatory, GM agrees to uphold 10 Principles derived from the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption. GM's participation in the UNGC underscores our confidence that we are operating in a consistent manner around the world to ensure the proper treatment of all employees.

The way we manage labor relations is evolving as the nature of unions and the interactions 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.

We manage our labor relations regionally, with a global focus. The labor relations responsibility is held with the global manufacturing leader, with partnerships that go to the highest level of the GM organization. Regular meetings are held with our union partners, starting with the CEO and the UAW Leadership meeting quarterly. Regional vice presidents of manufacturing enjoy face-to-face meetings with the unions when visiting the manufacturing sites globally, and plant managers around the globe discuss business issues on a daily basis with the local unions. All of these relationships assist in being able to make adjustments as needed due to schedules, economy swings or product decisions. As in all areas of our business, relationships are the key, and much time is devoted by GM Leadership to developing these relationships with our union partners.



GM Chairman & CEO Mary Barra, United Auto Workers (UAW) President Dennis Williams, GM Vice President North America Manufacturing and Labor Relations Cathy Clegg and UAW Vice President GM Department Cindy Estrada gather at the UAW-GM Center for Human Resources in Detroit, Michigan.



## DEVELOP EMPLOYEE CAREERS

Achieving maximum individual potential boils down to having employees who are engaged at work. Our evolution into a technology-driven, purpose-based organization is aligned with this aspiration. Our aim is to build a workforce of extraordinary leaders who are prepared to lead in an ever-changing world.

An important way we keep employees engaged is through ongoing talent development. Our development process is available to employees at all levels, from new hires to senior executives. Crucially, this process is not prescriptive. We provide guidance and offer diverse opportunities, while encouraging employees to build skills and gain experiences that interest them most.

We now offer programs in partnership with academic institutions such as Harvard, Stanford and the University of Michigan. These programs bring new perspectives on matters such as

creativity and design thinking that are preparing employees for emerging trends in our industry. GM-specific programs like JumpStart for new hires and Crucial Conversations for people leaders remain popular and effective, building both on-the-job competencies and coaching on skills like communication and trust.

Investments in our people are investments in continuous improvement. As our team expands its skills and leadership capacity, our organization grows stronger, too. That's why building a workforce of extraordinary leaders is our aim. Never before in our history has GM been more invested in the development of our people – people who are becoming prepared to lead in an ever-changing world.

**Our aim is to build a workforce of extraordinary leaders who are prepared to lead in an ever-changing world.**



*We aim to develop programs, both internally and with our external partners, to bring new perspectives to creativity and design thinking that prepare employees for emerging trends in our industry.*



## BUILD A CULTURE OF SAFETY

At GM, vehicle safety is owned by every person. We launched the Speak Up for Safety (SUFs) program almost three years ago to encourage employees to report potential vehicle safety issues or to offer safety-related suggestions, and we have continued to improve the process by which GM evaluates and decides on potential safety-related issues. In order to expand the number of submissions and increase engagement, in 2016 we created the SUFs smartphone app, which allows easy, on-the-go access for employees to file safety concerns from anywhere – anonymously, if desired – and include photos of safety risks as well. All SUFs submissions are tracked by a dedicated team and assigned into one of five categories based on the level of risk and action needed. We recognize and thank every person who makes a submission. Some submissions receive personal recognition from, and an opportunity to meet directly with, our CEO and Vice President of Safety.

### Global Safety Week

Our everyday mission is to keep our workforce and our customers safe, but for one week a year we shine an even brighter spotlight on safety. During annual Global Safety Week, we encourage each of our sites across the globe to identify their greatest local safety needs and raise awareness about the importance of safety.

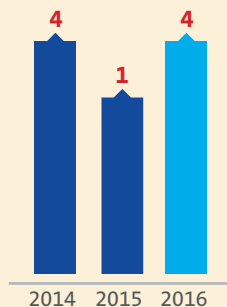


The emphasis on safety extends to every area of the company. Our legal and public policy teams designed a safety coin to remind them of the importance of safety in our products and our workplace.

### FATALITIES

(A work-related incident resulting in death)

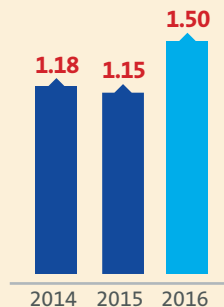
Our target is zero, so that every person who enters a GM facility leaves safely and unharmed.



### RECORDABLE INCIDENT RATE

(Number of incidents that resulted in injuries or illnesses that required medical treatment beyond simple first aid treatment per 200,000 work hours)

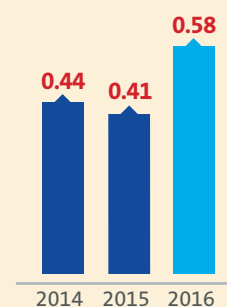
This metric helps to identify hazards, eliminate risks and drive reporting for all incidents so that we can learn and assess areas for improvement.



### LOST TIME INJURY RATE

(Number of lost work day incidents per 200,000 work hours)

This KPI focuses on those injuries that resulted in employees losing days from work. This helps us identify areas and processes where we should center our focus to improve our safety controls.



In 2016, Global Safety Week took as its theme “Be Inspired, Be Engaged, Be There,” focusing on being safe 24 hours a day, no matter where you are, and finding the inspiration to make safety personal. Our Chairman & CEO Mary Barra kicked off the week with a video message to our global workforce, and throughout the week we highlighted safety information, tips and best practices from worksites around the world.

At our IT office in Rosario, Argentina, for example, employees took part in fire safety training. The following week, employee Silvina Bertiche put her

new skills to work by swiftly putting out a fire in her mother’s kitchen, keeping her family and her mother’s home safe from harm.

We also launched a game for smartphones embedded with safety messages for this year’s celebration. The simple puzzle, which simulates a parking lot, gets progressively harder as players move other cars out of the way to get their vehicles out of the lot. GM employees competed with team members across the globe for high scores, and at the end of the week we awarded prizes to the 10 employees with the highest scores.

*As part of the GM Global Safety Week celebrations, GM Egypt safety team conducted a safety training session specially tailored for the GM women covering workplace safety as well as useful tips on defensive driving, kitchen safety, pregnancy safety and household safety.*







# Q&A

## ESTABLISHING A SAFETY CULTURE A CONVERSATION WITH MIKE TREVORROW, VICE PRESIDENT OF GLOBAL WORKPLACE SAFETY



**Q** What makes GM's approach to workplace safety distinctive?

**A** We're completely changing the culture by changing behavior, and that requires a different mindset. We want to make safety part of the daily conversation at GM. If I notice a safety issue with a co-worker, then I don't want to think twice about bringing it to their attention. Likewise, my co-worker should be accepting of my comment. We also are taking safety topics beyond the workplace to encompass safety habits in our vehicles and homes. Safety is not something that can be turned on at 8:30 a.m. and turned off at 5:30 p.m. It must be second nature to all of us and that means having a 24/7 safety mindset.

**Q** The Speak Up for Safety (SUFFS) program is nearly three years old. How do you expect it to evolve in the future?

**A** The program originally began as a way for employees to anonymously report vehicle safety issues, but has evolved into a reporting platform for workplace safety issues as well. For example, you can report ice in a parking lot that could cause someone to slip and fall. The program has been so popular that we haven't always been able to address these types of concerns in a timely manner. We're working toward developing a better way to route workplace safety issues so that we can respond faster and more appropriately. The 2016 introduction of the SUFFS mobile app was a big step forward.

**Q** GM has an aspiration to achieve zero defects and zero injuries. How are you engaging employees to work toward this?

**A** We're getting all employees on board by focusing on a safety mindset and reducing the task to a manageable question: "Today, can you commit to not getting hurt?" If you can do that, then maybe we can string a couple of days together. That turns into a week, and so on. When you look at the total, it does seem impossible. But break it down to one employee, and one day, it starts to look like something we can achieve. It's a big mountain to climb, but we can't accept any number higher than zero.

**Q** What are you doing to assess whether safety messages are resonating?

**A** We're monitoring the number of people who visit the safety pages on our website and how many are watching the five-minute safety talk videos. Certain ones seem to really grab attention and get shared across the company. That helps us determine what topics are most interesting and relevant and stir employees to act and change behaviors.

**Q** What's the ultimate goal when it comes to employee safety?

**A** We want safety to become an automatic part of our employees' everyday lives. From using handrails when going down stairs to practicing caution when chopping vegetables for dinner, there are more than 30,000 decisions that each of us make every day that affect our safety. The more we can talk about safety and promote safe habits that relate to daily life, the more likely people are to turn around and teach their kids and families about safety, too. That's where we really want to be.



# ETHICS

Aspiration: Full Transparency & Integrity – Always

# What We Aspire To Do

## FULL TRANSPARENCY & INTEGRITY – ALWAYS

Our mission is to become the world’s most valued automotive company. We want to do business the right way and win with integrity. That requires trust and transparency. Taking personal responsibility for our actions is critical to the success of our company. People trust us to deliver on our promise to do business ethically and design, build and sell safe, high-quality vehicles. Employees and visitors to our facilities expect us to operate in a safe environment that allows them to return home safely. We live our values and do what’s right for each other, our customers and the communities where we work around the globe.

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# Our Management Approach to Ethics

## Doing the Right Thing. Always.

The foundation of GM's business is our purpose and our core values – customers, relationships and excellence. They drive our business decisions and activities worldwide and are our road map for sustainability.

An ethical business starts at the top. As part of the Code of Conduct certification rollout in 2016, Chairman & CEO Mary Barra issued a message to all employees emphasizing GM senior leaders' support for the principles and values outlined in the Code, as well as their desire that each and every employee strive to "Do the Right Thing."

Our Board of Directors is also committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities. All Board members, officers and employees are expected to act ethically at all times and to adhere to the law, our Code of Conduct and our policies.

### **Employee Conduct**

From the top down, every GM employee is important to maintaining our ethical standards. We encourage our employees to do the right thing, and to act in a way that makes GM a company for which we are proud to work. GM's Code of Conduct reinforces our commitment to a work environment founded on mutual respect, trust and accountability, and outlines the policies and obligations that guide our business conduct.

GM's Code applies to everyone in our company, at every level, including employees, supervisors, board members and subsidiaries GM controls. We expect our third parties, including suppliers, to act in a way that is consistent with the principles and values of our Code when conducting business with GM. We expect employees working with our third parties to hold them accountable.

### Key Takeaways

- » GM's Code of Conduct, *Winning With Integrity*, sets our expectations for ethical behavior and applies to every level of the company, starting at the top with our Board.
- » Our Code extends beyond our own walls to include expectations for suppliers and contracted parties, such as consultants, who work on behalf of GM.
- » Annual Code of Conduct certification and compliance is required of all salaried employees, 100 percent of whom complied in 2016, with the exception of Austria.
- » All salaried employees and directors of the company are required to disclose conflicts of interest.
- » Our global ethics and compliance communications team works proactively to raise awareness of ethics and compliance practices.



**Compliance**

On an annual basis, all salaried employees are required to review the Code of Conduct and certify that they agree to comply, and that they have reported any violations of the Code or vehicle or workplace safety issues. In 2016, with the exception of Austria, GM achieved a 100 percent completion rate for its Code of Conduct Certification Program. Due to Works Council restrictions, the WWI Training and Certification Program is voluntary in Austria; nevertheless, 91.5 percent of Austrian employees still completed the Program by the required deadline.

Additionally, all salaried employees, regardless of role or location, are required to disclose actual and potential conflicts of interest as part of the certification process. Board members who are not employees provide written disclosure of any actual or potential conflicts of interest at least once a year.

To ensure compliance awareness continues throughout the year, our global ethics and compliance communications team develops and communicates compliance messages on a regular basis, underscoring the importance of various compliance topics.

Our Code of Conduct governs how our employees are expected to act: displaying integrity in the workplace, in the marketplace and in their communities when representing GM. It 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.

The Code of Conduct 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. It provides guidance about what may constitute unfair competition or insider trading and guidance on export compliance, privacy, anti-corruption and interactions with government officials.



# How We Measure Progress



**100%**

Employees Completing Code of Conduct Certification\*



**99.9%**

Employees Completing Corporate Required Training (outside of Europe)



**~7,000**

Employees Receiving In-Person Compliance Training

\*With the exception of Austria, due to local laws.

# Actions to Move Us Forward

## UPDATE OUR CODE OF CONDUCT

In 2016, we completed a comprehensive update of our global Code of Conduct. The Code is a cornerstone of GM's compliance program, serving not only as a statement of shared values but also as a guide to help employees make decisions that earn loyalty, trust and respect. It applies to everyone in the company, at every level.

Our culture of winning with integrity is a competitive advantage and drives business success. The updated Code focuses on principles and values, and shows the hows and whys of making ethical business decisions. It also underscores GM's global culture of safety. We reshaped our global Code of Conduct in 2016, and began rolling it out in North America in January 2017, with global translations and rollout following.

### Thoughtful Development

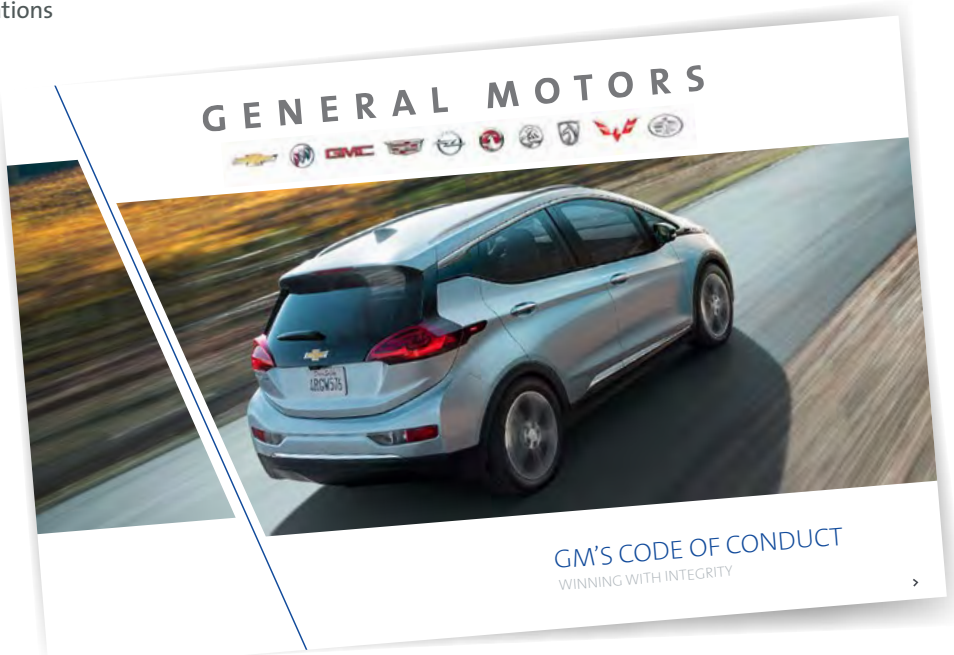
The Code development was overseen by the Global Ethics & Compliance Center (GECC) with input from a multifaceted team of GM leaders.

The result is a user-friendly Code of Conduct which every GM employee can access, understand and relate to. Our Code makes it clear that safety is the number-one priority across our value chain and makes a concerted effort to include our 18,000 suppliers.

Our new Code emphasizes that employees should make the right decisions, using ethical decision-making tools such as the following questions:

- Does it feel right?
- Is it in the best interest of our customers, coworkers, company and community?
- Would you be willing to be held accountable for your actions?
- If the action were to be made public, would you feel okay about it?

*To ensure compliance awareness continues throughout the year, GM's global ethics and compliance communications team developed and communicated compliance messages on a monthly basis, underscoring the importance of a particular compliance area.*



**Relevant Content**

In addition to reframing the decision-making processes we expect of our employees and suppliers, our new Code includes topics and information that are more relevant to GM's business and employees today. Among the topics now covered under our Code are greatly expanded safety discussions, charitable and volunteer activities, human rights, corporate citizenship, political activities, workplace violence, working with governments, money laundering, fair competition and much more.

The Code is now divided into four distinct sections:

- We follow our code
- We care about others; we put safety first
- We do what's right
- We protect our company

And each section is linked directly to relevant policies and includes helpful resources for employees, including legal and human resources documents and global contacts to assist employees with ethical decision making. Our new Code is a valuable tool to help every GM employee and supplier take actions that shape our company and its future, embodying our commitment to safety and Winning With Integrity.

**ENFORCE ANTI-CORRUPTION PRACTICES**



Every year, we strengthen our commitment to maintaining a culture of preventing, detecting and resolving misconduct.

All salaried GM employees complete global anti-corruption training on an annual basis and have an obligation to report any potential misconduct. Corruption of any kind undermines GM's commitment to integrity and is not tolerated. Even the appearance of impropriety in giving or receiving gifts, entertainment or things of value can jeopardize GM's interests and is inconsistent with this commitment.

In 2016, new online forms were developed to obtain pre-approval when providing to and accepting from third parties, and accepting from government officials. These new forms include the new value thresholds outlined in the revised Global Integrity Policy. The pre-approval tool streamlines the pre-approval process for giving and receiving gifts in relation to government officials and third parties by providing an automated workflow, as well as the ability to track the status of a request online, retain an audit trail, and generate reports.

*Anti-corruption training is administered to all salaried employees on an annual basis.*

## HELP EMPLOYEES SPEAK UP

Employees are encouraged to report any potential concerns of misconduct first to their supervisor, the GECC, HR contact, Legal staff contact or local leadership. In cases where an individual is uncomfortable reporting through established internal channels, reports can be made using our toll-free GM Awareline hotline. The Awareline is operated by an independent third party and allows employees and others to report concerns of misconduct by the company, its management, supervisors, employees or agents. Reports can be made in over a dozen languages 24 hours per day, 7 days per week, by phone, web, email, postal service or fax. Reports may be made anonymously, where permitted by law.

Reports made to the Awareline are classified into one of two categories. Category 1 reports generally include incidents of fraud, harassment, theft or discrimination. Category 2 reports are generally comprised of employee/workplace issues, including customer-service complaints, employee-benefits issues and Human Resource-related grievances. Category 1 reports are formally investigated to conclusion. The investigation results are provided to pertinent stakeholders for remediation and corrective action. Category 2 reports are provided to local management for handling. In 2016, GM received approximately 2,000 reports to the Awareline, and approximately 50 percent were classified Category 1.

For potential vehicle safety issues, a special Speak Up for Safety hotline has been established. GM employees and contract workers may also communicate with our independent Monitor anonymously, as permitted by law, or otherwise at any time. The Monitor maintains an independent toll-free phone number for reporting any violation of law or unethical conduct, as well as a globally available online web form. The Monitor's role supplements, but does not replace, existing established global employee reporting tools, such as GM Awareline and Speak Up for Safety.

Speak Up!, GM's Non-Retaliation Policy, is intended to protect GM employees from retaliation as a result of raising concerns in good faith. Industry benchmarking data shows that the majority of misconduct reports are made to an employee's manager. To help our own GM managers in such circumstances and to provide additional guidance regarding GM's Non-Retaliation policy, the GECC and Global Security teams developed a tool kit on how to address workplace retaliation.



*Employees are encouraged to report any potential concerns of misconduct.*



**2,002**

Reports to Awareline Globally

### New Due Diligence Tool

GM wants to make sure that we only do business with legitimate and reputable service providers, suppliers and other third parties. Critical to that is conducting due diligence to assess for corruption risk before we engage certain third parties. In the past, the due diligence process was manual. This was inefficient, and it limited our ability to assess for corruption risk utilizing data. GM recently transitioned to a web-based due diligence tool called DecisionPoint®. This tool streamlines third-party onboarding and information gathering, gives us a consistent method for scoring corruption risk posed by third parties, and provides an automated flow process for business and legal approvals. All of this is designed to mitigate risk and to make the due diligence process easier to use. In 2016, the tool was successfully piloted in Mexico and South America. A phased global deployment of this tool and integration into business processes will take place in 2017.



## CONDUCT COMPLIANCE TRAINING

GM's compliance training program was robust in 2016. Employees are required to complete the corporate-required courses every year to build upon their awareness of the Code of Conduct, address any identified risk areas and ensure every employee has a basic understanding of GM policies and procedures.

To enhance employee awareness of cybersecurity risk (both from a corporate and vehicle standpoint), a new cybersecurity course was developed by IT and added to the list of 2016 Corporate Required Training (required for all salaried employees). The course is entitled "Cybersecurity at GM – The New Common Sense" and provides employees with an awareness of cybersecurity threats to GM and what they and others can do to reduce the risk of unauthorized disclosure of GM Information, and how to protect GM systems and assigned GM IT devices. The complete list of required training courses for 2016 includes:

- Global Product Safety 101
- Cybersecurity at GM
- Global Anti-Corruption

- Reporting Wrongdoing & Business Misconduct (people leaders only)
- Information LifeCycle Management

To support our global employees, courses are available in a variety of languages. In 2016, GM achieved an overall completion rate of approximately 99.9 percent for these courses, outside of Europe.

In addition to GM's online courses, GM's Regional Compliance Officers and local compliance lawyers conducted numerous in-person training sessions globally, training approximately 7,000 employees in 2016. These in-person training sessions included anti-corruption, general compliance, third-party due diligence, the Foreign Corrupt Practices Act, the UK Bribery Act, export control and sanctions, data privacy, antitrust, IT security and GM's obligations under its Deferred Prosecution Agreement.

**In 2016, GM achieved an overall completion rate of approximately 99.9 percent for these courses, outside of Europe.**



*Winning With Integrity remains the cornerstone of our corporate values.*

## IMPROVE COMPLIANCE CONTINUALLY

As part of our efforts to continuously improve the company's compliance program, the GECC conducts periodic, independent external assessments of our ethics and compliance program. The company also conducts internal risk assessments and regularly evaluates the effectiveness of our compliance program.

General Motors is a member of the Automotive Compliance Roundtable, a group of automotive original equipment manufacturers (OEMs) and suppliers that meet regularly to share best practices and lessons learned; identify resources helpful in developing and managing a compliance program; identify compliance risks in the automotive sector; and benchmark concerning the structure of a compliance program.

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.



# OPERATIONS

Aspiration: Positive Environmental & Social Impact





# What We Aspire To Do

## POSITIVE ENVIRONMENTAL & SOCIAL IMPACT

There are very few companies that operate at GM’s level globally – more than 225,000 employees; 400 facilities, including more than 170 manufacturing plants; and affiliations with nearly 20,000 locally owned dealerships worldwide. Locally, this scale means that we impact hundreds of communities around the world. Globally, that scale gives us enormous influence to innovate in the areas of environmental and social excellence. Moreover, when we reduce our operational impact, we operate more efficiently. Efficient operations translate into lower cost structures and higher levels of quality, both of which ultimately benefit our customers.

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# Our Management Approach to Operations

## Improving Efficiency Across the Value Chain

We currently maintain nearly 400 facilities, including more than 170 manufacturing plants around the world. No two facilities are alike. 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 provide an effective foundation for environmental stewardship and support our efforts to build the most valued automotive company.

### **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 are universal performance requirements designed to protect human health and the environment in accordance with the GM Environmental Principles and set baseline standards; and (3) conform to other key performance indicators, such as 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 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.

### **Key Takeaways**

- » GM's Environmental Principles and environmental management system is the foundation for optimizing the environmental footprint of our operations.
- » Since 2010, we have been measuring our progress against a set of 2020 manufacturing commitments, having achieved six to date.
- » We measure and manage resource use across our value chain to drive business efficiencies and conserve natural resources.
- » While our facilities vary widely in function and size, our resource management strategy is applied on a consistent basis.
- » The GM Green Dealer Program encourages U.S. Chevrolet, Buick, GMC and Cadillac dealerships to reduce waste, energy and water use, and conduct community outreach.

### **Environmental Principles**

As a responsible corporate citizen, GM 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 GM personnel in the conduct of their daily business practices.

- We are committed to actions to restore and preserve the environment.
- We are committed to reducing waste and pollutants, conserving resources and recycling materials at every stage of the product life cycle.
- We will continue to participate actively in educating the public regarding environmental conservation.
- We will continue to pursue vigorously the development and implementation of technologies for minimizing pollutant emissions.
- We will continue to work with governmental entities for the development of technically sound and financially responsible environmental laws and regulations.
- 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.

### **Environmental Policy**

We believe our past achievements in the area of environmental stewardship are the result of a combination of Environmental Principles and Performance Criteria and local policies. With our Environmental Principles as a foundation, this combination provides a framework for our manufacturing and nonmanufacturing 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 laws 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.

*A new 800-kilowatt solar array at the Warren Transmission Operations is GM's largest solar installation in Michigan.*

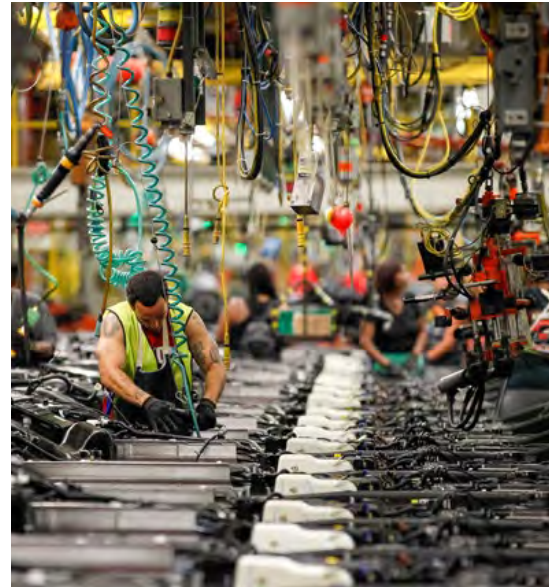


Statutory, regulatory and permit programs administered by various governmental agencies impose numerous environmental requirements on our facilities and products, and compliance with these requirements is an organizational imperative. Compliance issues occasionally arise, and each allegation of noncompliance is treated seriously by GM. In 2016, GM received 36 Notices of Violation (NOVs), 25 in the U.S. and 11 outside the U.S. GM took actions to resolve these NOVs and, except in one instance, GM did not pay any penalties or fines in excess of \$10,000 USD. GM paid a fine of \$16,160.91 USD to resolve an NOV issued in Mexico.

**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.



*An assembly line at the General Motors Arlington Assembly Plant.*

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.

**Environmental Performance**

Implementation of our Environmental Principles is facilitated by Environmental Performance Criteria (EPC) that apply to our global manufacturing facilities and major technology centers. In 2015, we made the decision to expand EPC application to our nonmanufacturing facilities and are working toward implementation of this by the end of 2018. 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 may be more stringent than those required by

*By maintaining a common Environmental Management System, we can measure our environmental performance and share knowledge, processes and technologies across all our manufacturing facilities.*



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. Where laws are more stringent than our EPCs, the law controls.

**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 of appropriate experience or 11 years of 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 focused on GM Environmental Principles, our internal environmental performance criteria and industry best practices.

*Training employees in environmental stewardship, ranging from preventive actions to regulatory requirements, is critical to our performance.*



**Operational Impact Strategy**

As we work toward our aspiration of having a positive environmental impact across our value chain, we focus a tremendous amount of effort toward improving the efficiency of manufacturing processes used to produce our vehicles. Our efforts pay significant dividends: Sound resource management helps drive manufacturing excellence and significant cost savings while reducing various risks – all of which helps us offer customers better vehicles at more affordable prices. Today, GM is proud to be an industrial leader in energy efficiency and emissions, water and waste reduction.

We measure and manage resource use at all our manufacturing locations, engineering centers, parts distribution centers and proving ground sites around the world. These facilities vary in function, size and surrounding natural environments, which give rise to varying concerns such as water scarcity or air quality. Our strategy across these facilities, however, has common attributes:

- It's holistic, in that we approach resource conservation from a systems perspective in order to develop optimal strategies.

- It's heavily reliant on innovation, using as much creativity and out-of-the-box thinking in our conservation efforts as we do in innovating new vehicle technologies. In fact, we often cross functions, such as manufacturing and vehicle development, as we work to realize new resource efficiencies.
- It's a collaborative process that reflects a manufacturing culture steeped in the sharing of best practices, particularly behavior. We often collaborate with other businesses and organizations to address tough challenges and engage local communities and schools on environmental stewardship.
- It's incentivized by linking 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 in the U.S. who offer energy, waste and water conservation ideas that are implemented are eligible to receive a portion of the savings up to US\$20,000.

*Mountain Chevrolet in Glenwood Springs, Colorado, earned Green Dealer certification, thanks in part to a 40-kilowatt solar array that supplies power to the dealership.*



**Dealership Environmental Initiatives**

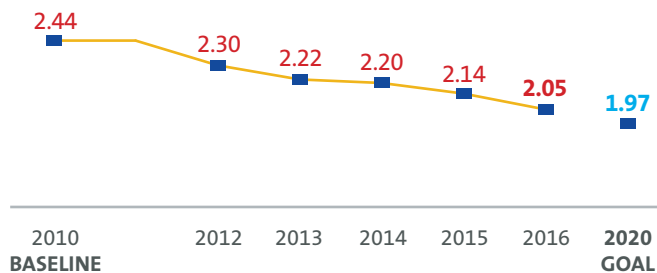
GM dealerships are the “face of GM” to customers around the world and one of the best forums for extending GM’s sustainability commitment. They are our primary distribution channel and an important way for us to showcase our holistic approach to environmental sustainability. We developed the GM Green Dealer Program to encourage eligible Chevrolet, Buick, GMC and Cadillac dealerships in the U.S. to highlight the business practices they have implemented to improve their environmental impacts. The voluntary program recognizes dealers who have made strides in the areas of energy efficiency, water conservation, renewable energy usage, waste elimination, recycling and community outreach – all of which help them reduce operating costs, provide their employees a better work environment and differentiate their businesses.



# How We Measure Progress

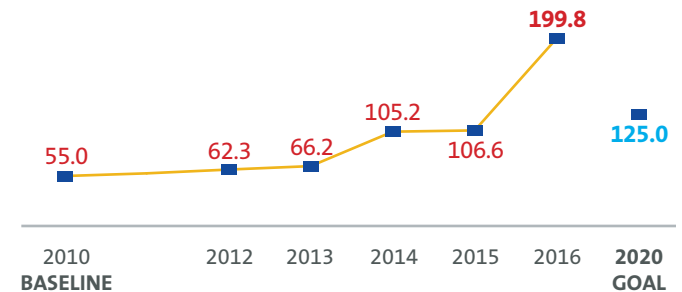
## 2020 Manufacturing Commitments

### Reduce Energy Intensity by 20 Percent (MWh/vehicle)



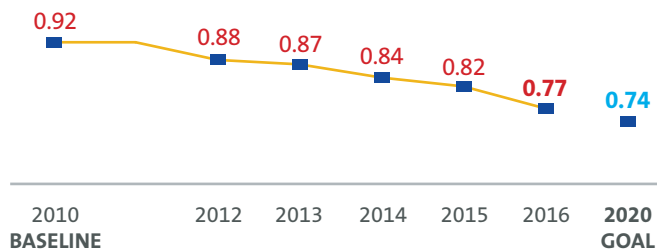
Our facilities have reduced energy intensity by 16 percent since 2010 in part due to our leadership in a number of external energy management programs.

### Increase Renewable Energy to 125MW (MW)



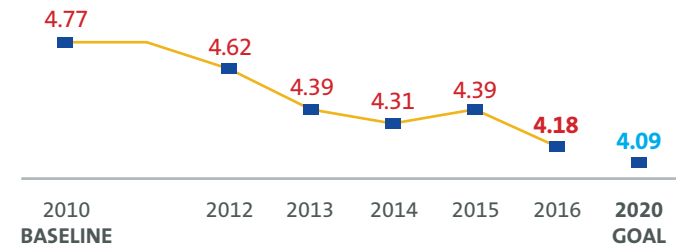
Our renewable energy portfolio has more than tripled since 2010. In 2016, we surpassed our renewable energy goal four years early and set a new goal to meet 100 percent of the electrical needs of our global operations with renewable energy by 2050. *Commitment achieved in 2016.*

### Reduce Carbon Intensity by 20 Percent (metric tons CO<sub>2</sub>e/vehicle)



A 16 percent reduction in carbon intensity since 2010 by our facilities has closely tracked with improvements in energy efficiency.

### Reduce Water Intensity by 15 Percent (M<sup>3</sup>/vehicle)

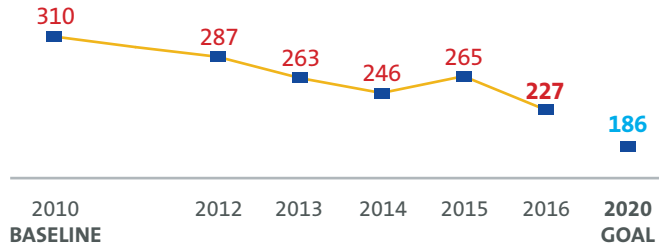


While we manage water at the local facility level, our global operational footprint has reduced water intensity by 12 percent since 2010.

## 2020 Manufacturing Commitments (continued)

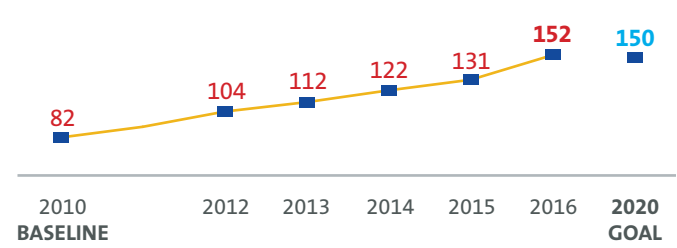
### Reduce Waste Intensity by 40 Percent\*

(kg/vehicle)



As we have increased the number of landfill-free sites around the world, we have been able to decrease our waste intensity by nearly 27 percent since 2010.

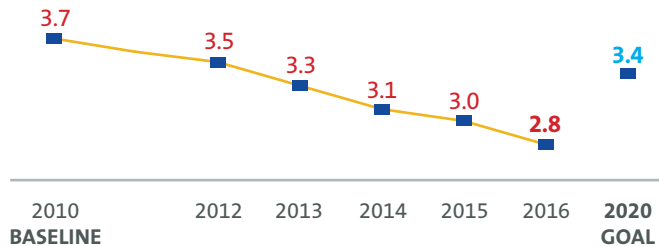
### Reach 150 Landfill-Free Sites



We added 23 new landfill-free sites in 2016 to help us achieve our 2020 landfill-free target four years ahead of schedule. With this momentum, we will continue to work toward our aspiration to become a zero-waste company.

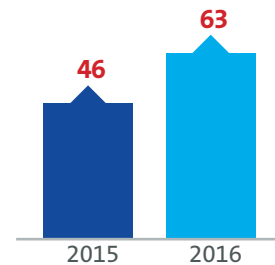
### Reduce VOC Emissions by 10 Percent

(kg/vehicle)



Since 2010, we have lowered our VOC emissions by 24 percent, well ahead of our 2020 goal. *Commitment achieved in 2013.*

### Establish a Wildlife Habitat Certification (or equivalent) at each GM manufacturing site where feasible by 2020.



We are working to improve wildlife habitats by having a Wildlife Habitat Certification (or equivalent) at each GM manufacturing site where feasible by 2020.

# 100%

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

\* Please see footnote on page 169

## Energy Reduction



**5 Years**

U.S. EPA ENERGY STAR®  
Partner of the Year –  
Sustained Excellence in  
Energy Management



**3 Years**

U.S. EPA ENERGY STAR®  
Climate Communications  
Award



**15**

U.S. EPA ENERGY STAR®  
-Certified Facilities



**75**

U.S. EPA ENERGY STAR®  
Challenge for Industry Facilities



**31 Plants**

U.S. Department of Energy  
Better Buildings, Better  
Plants Program



## Global Climate “A” Leader

### Green Dealerships



**13 percent**  
of U.S. Dealers

**528**  
Participating Dealers

**91**  
Green Dealer Program  
Certifications\*

\* These dealers met specific criteria for environmental performance. Visit [www.gmgreenddealer.com](http://www.gmgreenddealer.com) for details of the program.

# Actions to Move Us Forward

## COMMIT TO A 100% RENEWABLE FUTURE

Strengthening our business for the long term means we are always looking ahead. And when it comes to energy, it could not be clearer that clean, renewable energy sources are the best option for the future. In 2016, we were excited to achieve our 2020 commitment to generate 125 megawatts of clean energy four years ahead of schedule, with 199 megawatts at 31 facilities. Building on that success, we amplified our efforts by committing to meet 100 percent of our electrical power needs through renewable energy by 2050. That means that the power needs of 350 GM facilities in 59 countries, from our assembly lines to our corporate offices to our customer care centers, will be met with solar, wind and other zero-emission energy sources.

To meet our renewable energy goal, we will continue to improve the energy efficiency of our operations while transitioning to clean sources for power. Currently we require approximately 9 terawatt hours

of electricity to build our vehicles and power our offices, technical centers and warehouses around the world. Today, GM saves approximately \$5 million annually from using renewable energy, a number that we anticipate will increase as more projects come online and the supply of renewable energy increases. In addition, we anticipate costs to install and produce renewable energy will continue to decrease, resulting in greater bottom-line returns.

### *Industry Leadership*

Power purchase agreements not only provide us with clean energy, but also support the development of large-scale renewable energy projects around the world and demonstrate our commitment to marketplace advocacy. GM is one of 88 companies who made the RE100 Pledge as of year-end 2016, and the only North American automaker to do so. Pledging to be 100 percent renewably powered not only provides GM's business with lower and more stable energy costs for energy generation, but also positions us as a world leader in corporate sustainability.

As a founding member of the Renewable Energy Buyers Alliance and Business Renewables Centers and one of the first signatories of the Corporate Renewable Energy Buyers' Principles, GM helps scale the availability and adoption of renewable energy. These organizations, spearheaded by the Rocky Mountain Institute, the World Wildlife Fund and the World Resources Institute, work to identify barriers to buying clean energy and develop solutions to meet growing demand.

### 2016 Renewable Initiatives

- » Completed the installation of a 466-kilowatt solar array – powerful enough to charge 1,000 electric vehicles for a year – at our Rochester Operations plant in upstate New York.
- » Added 30 megawatts of solar arrays at two facilities in China – 10 megawatts of rooftop solar at our Jinqiao Cadillac assembly plant in Shanghai and 20 megawatts of solar carports at our vehicle distribution center parking lot in Wuhan.
- » Made our largest-ever renewable energy purchase in 2016 with a commitment to buy 50 megawatts of wind power – enough to supply the electricity needs of 16 of our U.S. facilities – from a 150-megawatt wind farm in central Texas.

# Q&A

## A 100% RENEWABLE FUTURE: HOW WE GET THERE

GM has pledged to meet 100 percent of the electricity needs of our global operations with renewable energy – such as wind, sun and landfill gas – by 2050. Our global renewable energy manager, Rob Threlkeld, answers some questions about the company’s 100 percent renewable energy plans and what it will take to achieve that goal.



Rob Threlkeld  
GM Renewable  
Energy Manager

**Q** How does GM define this commitment? What does it mean to be 100 percent renewable?

**A** Our global electricity needs will be met with renewable energy by 2050. This represents about 350 facilities where we pay utility bills and includes both manufacturing and nonmanufacturing buildings leased or owned by GM. Right now, we have 199 megawatts of renewable energy capacity at 31 facilities, so we have a lot of work ahead of us.

**Q** Why is it important for GM to be powered by renewable energy?

**A** This commitment, along with a pursuit of electrified vehicles and efficient manufacturing, is part of our approach to help address climate change. We have a vision to decarbonize the auto industry and ensure our

vehicles operate in the cleanest way possible. After all, clean energy means cleaner air in our communities. It all makes business sense, too. These efforts translate into bottom-line benefits, such as lower and more stable energy prices for the long term.

**Q** How much will it cost to have all global electricity use met by renewable energy?

**A** GM currently spends \$1 billion on energy annually, including electricity, natural gas, and heating and cooling costs. Electricity makes up about \$650 million of that budget. Renewable energy offers more stable pricing options than traditional energy sources like fossil fuels, reducing the price volatility caused by external threats like government relations and natural disasters. Wind energy is already price-competitive with traditional forms of energy, and we expect the price of solar power to continue to decrease as demand grows.



Our use of batteries from five Chevy Volts to store the clean energy generated at our Enterprise Data Center office in Milford, Michigan, earned GM a Top Project of the Year award from Environmental Leader. (Left to right) Rob Threlkeld, GM Global Renewable Energy Manager; Mari Kay Scott, Executive Director, Global Environmental Compliance and Sustainability; Paul Nastu, Founder and Publisher, Environmental Leader.



**Q** How much money could GM save by 2050 by executing this plan?

**A** Although it is very difficult to provide a specific and reliable number this far out in terms of savings, we will save money through onsite investments in renewable energy, like building more solar arrays at our plants and facilities. We don't know the future price of energy, but based on our decades-long implementation of renewable energy projects, we strongly believe we'll get a good return on new projects globally.

**Q** What sorts of challenges do you face as you add clean energy?

**A** Some of the market dynamics in our way are a lack of necessary electrical grid infrastructure to deliver low-cost renewable energy; tariffs that discourage purchase of clean-energy technologies; a lack of green tariffs to encourage those same investments and the facilitation of purchasing contracts for large-scale renewable projects.

**Q** What will your renewable energy portfolio look like?

**A** The bulk of the renewable energy mix will likely come from power purchase agreements, which offer significant amounts of power that will help us scale our use. GM has signed three power purchase agreements (PPA) for wind energy. Two PPAs provide a total of 80 megawatts to our Arlington Assembly plant, and a third PPA provides 34 megawatts to power the electric needs of three of our facilities in Mexico. We also expect to meet the goal through green tariffs – working with our utility partners to allow customers greater access to electricity from renewable sources. We'll continue to develop energy storage options, like powering facilities with used electric vehicle batteries, and to install onsite renewable energy projects in the form of solar arrays and landfill gas projects. As we build

new or renovate existing buildings across our global operations, we'll integrate renewable energy where feasible. In areas where renewable energy options are scarce, we'll potentially look at purchasing renewable energy credits.

**Q** What companies will GM work with on its renewable energy projects?

**A** To reach our goal, we're collaborating with local utilities, policymakers, government officials, renewable energy developers, technology manufacturers and other companies and organizations that will help make renewable energy procurement more attainable. This is why we're a founding member of the Renewable Energy Buyers Alliance, which helps grow corporate demand for renewable power and demonstrate that market demand to utilities. Not all markets where we operate have established a definition of renewable energy credits or even offer renewable energy sources. We plan to collaborate with local policymakers and regulators to help enable more clean energy options.

*GM signed a power purchase agreement with Renewable Energy Systems to source 50 megawatts of wind energy to power 16 sites with 100 percent renewable energy.*





## ELIMINATE COAL-BASED EMISSIONS & DRIVE ENERGY CONSERVATION

For the first time ever, GM is not generating any on-site coal emissions to power our operations. When we switched our boilers at the Oshawa, Ontario, Canada, and Wentzville, Missouri, facilities from coal to natural gas and shut down our coal fired boiler at Detroit-Hamtramck and purchased steam from renewable sources, we eliminated the last of our coal-based emissions. This achievement has been one of the drivers to decrease our CO2 emissions by 16 percent since 2010, as coal is twice as carbon intensive as natural gas. These types of initiatives underscore our ongoing dedication to using less energy across all of our operations. Conserving energy will speed our progress toward our renewable energy goals, while also saving GM money and providing cleaner air in our communities. We continue to find ways to cut energy use each year; in 2016 alone, our energy conservation efforts saved us \$73 million in energy costs.

We couldn't achieve these results without a workforce that is engaged and committed to improving energy efficiency every day. Plants develop programs to encourage employees to conserve energy. For example, Rochester Operations implemented a "Shut It Off" program to remind employees to take action, and audits the process to provide feedback to the team. We also leveraged ENERGY STAR's "Bring Your Green to Work" campaign to create learning booths and seminars with local energy utilities to discuss energy-saving ideas for both the home and office.

### Employee Engagement

Our U.S. operations also adopted a practice – Energy Treasure Hunts – made popular in our European operations centers. Our Spring Hill, Tennessee, manufacturing facility conducted its first Energy Treasure Hunt last summer, bringing more than 20 of our team members together to build a comprehensive understanding of the energy used in the facility and where energy-

emissions- and cost-savings opportunities existed within the facility's daily operations. After conducting a detailed tour of the site, the team identified 34 energy-saving opportunities, which they narrowed down to 10 high-impact opportunities, and crafted an action plan to follow. All told, those 10 improvements to the site's operations will save \$1.1 million per year and recover the costs to implement them in less than a year.

Although 75 percent of our energy use comes from manufacturing facilities, there are significant savings to be had from reducing the energy used in our nonmanufacturing locations. Installing energy-sipping LED lights, hosting employee "energy awareness" talks and replacing roofs with white light-reflecting surfaces are just a few of the steps we take in operations facilities to reduce energy use. We're bringing every employee on board to keep an eye out for energy-saving opportunities.

### Energy Intelligence Systems

Our technological expertise is also helping us reduce our energy use across the company. To date, 18 plants in the U.S. and Canada have implemented energy intelligence systems, which automatically audit energy use and identify energy-saving projects for plants. For example, these systems can examine energy use in relation to production data and grid demand to identify when the most energy-intensive operations take place. By shifting those operations to occur during off-peak hours, we can reduce our strain on the electric grid and lower our energy costs. Another example is a virtual survey that analyzes building temperatures, air flow and humidity, and uses that data to forecast possible energy and financial savings from adjusting temperatures as needed.



*Amy Chiang, an EDF Climate Corps fellow from the University of Michigan, gathers temperature readings from the paint shop during an energy treasure hunt at GM's Silao Complex in Mexico.*

## ACHIEVE WASTE-REDUCTION GOALS



GM added 23 landfill-free facilities in 2016 – among them four sites in Port Elizabeth, South Africa.

The automotive industry is a material resource-intensive industry, which makes waste minimization an important mission for us and an area where we are making notable progress. 2016 marked a record year for our landfill-free commitments: We added 23 new sites

for a total of 152 landfill-free sites worldwide. With this addition, we now count 52 nonmanufacturing and 100 manufacturing sites, which means we have exceeded our 2020 landfill-free target four years early.

These results reflect our efforts to optimize our resource efficiency so that we generate less waste, maximize the use of the materials we require, and repurpose and recycle wherever we can. Altogether, we recycle or reuse approximately 2.5 million metric tons of byproducts a year. In recent years, we generated over \$1 billion in revenue and savings from recycling and reuse activities. This number is growing smaller, however, as we reduce total waste through engineering and manufacturing efficiency improvements.

An important part of our landfill-free program is sharing our hard-earned expertise. We mentor about 25 companies a year, from small businesses to large multinational corporations, on how to manage challenging waste streams. We have also created a landfill-free blueprint that can be viewed [here](#) and outlines best practices so any company can follow in our footsteps.

### Getting Back on the Landfill-Free List

The process of a facility earning landfill-free certification is a significant achievement; another is maintaining that certification. If a landfill-free facility slips even a little, they lose certification, and local teams and global waste experts must quickly work to find solutions. A diligent commitment to re-list sites, in fact, has been key to reaching our waste-intensity goal.

Our manufacturing facility in Cairo, Egypt, experienced just such a situation, falling off the landfill-free list in 2015 after they lost their landfill-free certification. The challenge was processing their residual paint sludge – the sticky leftover residue from painting a car – which the facility lacked the recycling infrastructure to process. After some brainstorming, the

Cairo team worked with an existing partner who was able to handle the paint sludge by developing a process to clean the sludge and oil from containers and convert the residue to energy. The containers were then sent to a recycler. As a result, the supplier was able to expand its capabilities and bring cost savings to the plant. The Cairo plant leadership also established a backup with another partner in case the original plan fell through.

“This was not a quick process; it took about eight months of planning and supplier negotiations,” said Aly Hassan, environmental manager at the Cairo facility. “In the end, we’re better for it, and it strengthened our team.”



## 2016 Landfill-Free Locations



### MANAGE WATER-RELATED RISKS

Water scarcity is a complex global issue. Though we identify only eight GM facilities to be in water-stressed areas, our intent is to understand the level of risk associated with water stress and scarcity in each of these areas and to be a leader in helping to shape solutions. In addition, we are committed to responsible water management across our operations.

We use water stress tools like the Global Water tool from the World Business Council for Sustainable Development, Aqueduct tool from the World Resources Institute and local site analysis to quantify the level of water stress at each of our major manufacturing sites. We also have used a third party to update a lifecycle analysis of water use on a country-to-country basis down to the sixth tier in our supply chain to help prioritize our water stewardship efforts in the future.

#### *Local Approach*

We recognize 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. When plants are located in water-stressed areas, special consideration is given to water treatment technologies. Minimizing water use and withdrawals allows the plant to minimize the stress it is placing on local water sources, which in turn helps lessen the risk that, in times of drought, local water sources may be depleted beyond carrying capacity.





A water conservation project at GM's Arlington Assembly will save 17.8 million gallons of water a year.

In 2016, we completed several innovative projects that will help us further reduce our water footprint while also saving significant money.

**North America**

Projects at our Arlington, Texas, and Detroit-Hamtramck assembly plants enable us to capture wastewater and reuse it for cooling processes at each plant. In Arlington, this is anticipated to save 17.8 million gallons of water and US\$38,000 per year, while savings at Hamtramck total US\$1.6 million annually.

**South America**

Water conservation measures have included:

- Increasing the amount of water reused at our São Caetano do Sul, Brazil assembly plant to 121,263 cubic meters by incorporating water reuse in our cooling tower, industrial processes and in the sanitation system.
- Installing flow-restrictors into showers and faucets across multiple facilities.
- Incorporating a wetlands water-treatment process at our Joinville, Brazil, engine plant that uses plants and soil to remove the effluents from our wastewater. The purified wastewater at Joinville is then reused in operations across the facility.

**Europe**

Vauxhall staff in Luton England created a “water balance” table detailing all the processes and their rates of water consumption in order to identify three ways to reduce water use and water waste:

- Repairing leaks in the facility’s underground water pipe network to reduce water use by 5.5 cubic meter per vehicle produced.
- Lowering the tank overflow settings within the critically important ELPO coating process to cut water use while maintaining the quality of the process.
- Reducing the frequency and volume of water needed to flush emergency showers to save 7 cubic meters of water per hour in the facility.

These changes and others have resulted in a 30 percent reduction in the water used to produce each vehicle at Luton between 2013 and 2016.

Our corporate water stewardship strategy is intended to build on such local water conservation efforts and help us maximize the full potential value of responsible water management for our company and communities. GM’s commitment to water management is also reflected in our transparency and disclosure efforts through CDP’s water program, which we joined in 2014 to improve engagement of our supply chain in water use globally.

A wastewater treatment facility sits near Joinville Engine’s filtering gardens, where the plants and soil are used to filter wastewater.



**12%**  
Global reduction  
in water used  
to produce a  
vehicle since  
2010

## HELP BUILD A MORE CIRCULAR ECONOMY

With 152 zero-waste-to-landfill sites around the world, our track record for meaningful waste reduction is well established. Efforts in this area not only reduce our own environmental impacts, but increasingly help contribute to a circular economy, one in which materials that would have become waste in the past are put back to work serving another purpose.

### **Recycling Water Bottles**

One of our most innovative circular-economy projects shows how we can recycle and reuse waste material, while supporting people and businesses in our communities. Under the leadership of John Bradburn, our Global Manager of Waste Reduction, we launched our Do Your Part program – which empowers employees and communities to connect

their individual actions to broader social and environmental causes.

This connection includes Flint, Michigan, which is dealing with a water and health crisis since high levels of lead were discovered in the city’s drinking water. Our team wanted to create a project to recycle the millions of plastic water bottles that have been delivered to Flint. The result is an ongoing and sustainable program to put the recycled bottles to work in a way that helps grow domestic jobs, reduces the environmental impacts of those water bottles and assists people in need.

In 2016 alone, we took in more than 4 million used water bottles – 2 million from Flint, and the rest from six GM facilities around Michigan. We worked with a number of suppliers to process the plastic – washing, flaking, converting to resin and then to fibers – and created three unique fleece products, two of which are used within GM. One creates a noise-reducing fleece insulation that covers the V6 engine of our Chevy Equinox, while the other is used in air-filtration components for 10 GM facilities.

As part of this project, we partnered with two community organizations to recycle these bottles into new opportunities. The N.E.W. Life Center in Flint is training at-risk individuals to make air filter panels from the recycled bottles and provides other job-training skills as they complete the program. The Empowerment Plan in Detroit gives jobs as seamstresses to previously homeless women. GM provided enough recycled plastic fleece for these women to sew 6,500 coats that transform into sleeping bags, which are provided free to people in need. The nonprofit provides job training and skill development to help these women find long-term, sustainable work.

We envisioned this project from the start as a way to grow a circular economy. Rather than shipping those plastic bottles overseas for processing, we realized we could work domestically to grow local

*GM seamstress Jessica West sews insulation made from recycled water bottles, which will line 6,500 coats to be donated to those in need.*





*GM, Herman Miller and Green Standards partnered to refurbish three rooms at Cody High School, featuring repurposed furniture and equipment from GM.*

economies. By working with a number of smaller suppliers, we expanded the economic impact of the program. And our partnerships with local job-training organizations helped bring more people into the economy, all the while providing help to people in need. The innovation and wide-ranging benefits of this project earned GM the 2016 Environmental Award at the Society of Plastics Engineers Automotive Innovation Awards Competition.

### **RePurposing Office Equipment**

In 2016, we conducted major renovations at three of our main Michigan sites, and identified the need to find a new home for our surplus office equipment. We worked with two partners to address this challenge: Furniture maker Herman Miller and its rePurpose office equipment recycling program and Green Standards, a firm dedicated to connecting companies having surplus resources to local nonprofits.

Through this program we have been able to divert from landfills nearly all existing furniture, equipment and supplies from GM's technical center in Warren proving ground in Milford and global headquarters in Detroit. This resulted in \$1 million of in-kind donations to about 100 Michigan-based community organizations.

Among the first beneficiaries of the rePurpose program is Cody High School in Detroit, with whom GM has been closely involved over the past six years. In addition to furniture and equipment, employee volunteers from GM, Herman Miller and Green Standards conducted a three-room makeover – repainting and repairing each room – to improve the educational experience of students and faculty.

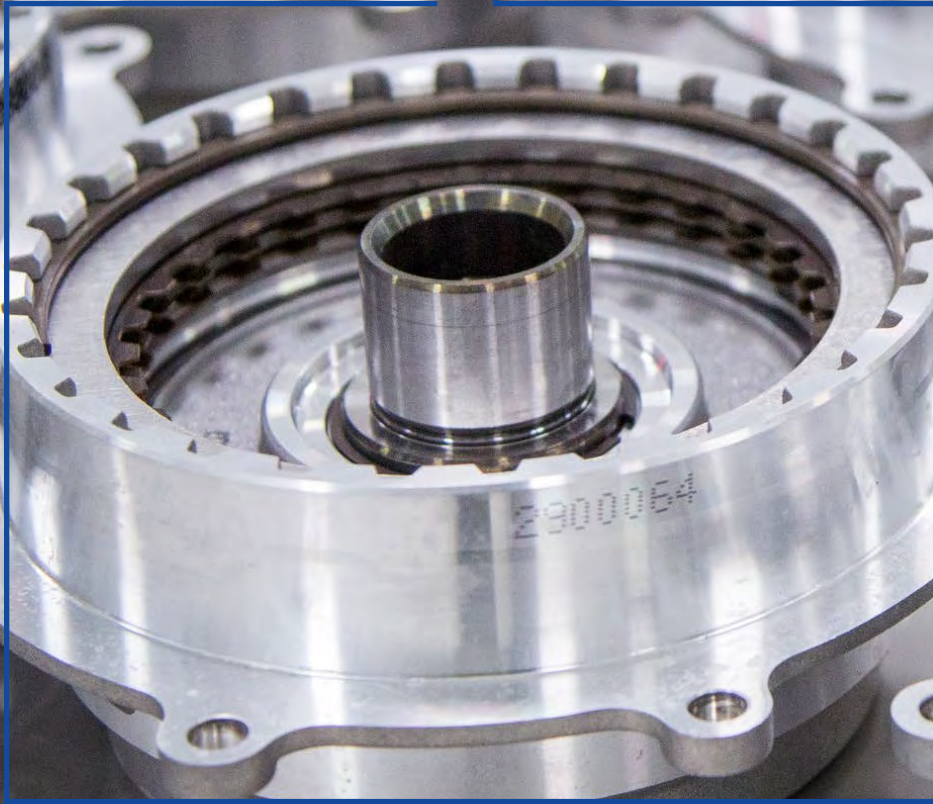
### **Building a Marketplace**

In 2016, we also continued our work with the Materials Marketplace, with the United States Business Council for Sustainable Development. The project, which brings together many companies within the United States and other areas of the world, is intended to help participating companies identify ways to reuse or exchange undervalued materials through an online database and establish new circular supply chains. By participating in the Marketplace, GM and other companies reduce their operational costs from sourcing and disposing of materials at each end of the product life cycle, lower the environmental impacts of our operations and have the opportunity to share and learn about best practices with peers in the automotive industry and other industries.



# SUPPLY CHAIN

Aspiration: Positive Environmental & Social Impact





# What We Aspire To Do

## POSITIVE ENVIRONMENTAL & SOCIAL IMPACT

In order to build the most valuable automotive company, we must recognize that our impacts go beyond the walls of GM to include our entire value chain, of which suppliers make up a significant part. The importance of strong supply chain management and relationships is further underscored as new issues arise due to business expansion into emerging markets and increased participation in more advanced technologies, such as electrification. We seek to partner with suppliers who share our purpose and values. We expect our employees working with suppliers to hold them accountable to the same environmental principles and ethical standards to which we hold our own employees and operations so we all win with integrity.

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# Our Management Approach to Supply Chain

## Collaborating to Improve Mutual Performance

GM's supply chain spans over 21,000 businesses around the world. We spend approximately \$90 billion – two-thirds of our automotive costs – on about 200,000 items representing a wide variety of raw materials, parts, supplies, freight, transportation and other services. These are delivered or provided to more than 170 manufacturing operations in 30 countries. Despite its great breadth, scope and complexity, we've found that working with our suppliers to improve our

mutual performance leads to rapid and significant improvements in our overall impacts.

As an example, lifecycle analysis reveals that our greenhouse gas (GHG) impact is 10 times greater in our supply chain than in our own operations. By working with suppliers to reduce their own GHG emissions, we are able to reduce our overall impact.

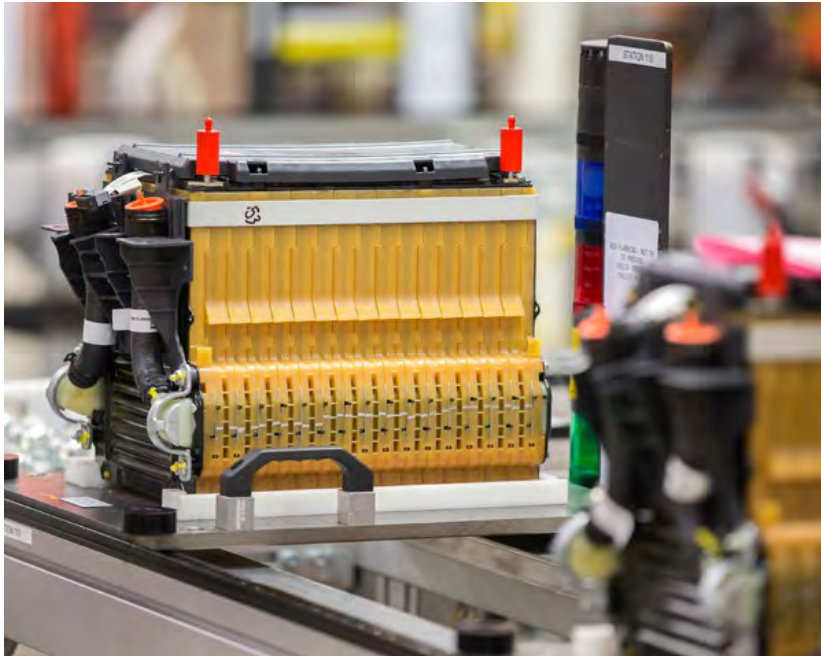
Our supply chain is built on strong, transparent and trusted relationships, which are critical to ensuring product quality, availability and affordability for our customers. By seeking to be the partner of choice to suppliers, GM is better positioned to:

- Develop transformative transportation solutions for industry, environmental and societal challenges.
- Accelerate innovation to bring the newest technologies and innovations to customers.
- Improve our business competitiveness and lower business risks.
- Eliminate waste from value streams and deliver defect-free vehicles.
- Address human rights issues.

GM has renewed its commitment in recent years to work toward exemplary supplier partnerships built on integrity and shared values.

### Key Takeaways

- » Though GM's supply chain is vast and complex, we are able to improve mutual performance by working effectively with suppliers.
- » We seek to be a partner of choice to suppliers to develop transformative transportation solutions, accelerate innovation, improve competitiveness, eliminate waste, improve quality and address human rights issues.
- » Our Code of Conduct and supplier contracts set forth expectations for ethical social, business and environmental practices; all suppliers must certify compliance.
- » Supply chain management challenges include visibility beyond Tier I suppliers and striving for a sustainable and socially responsible supply chain without adding more complexity and burdens to supplier relationships.
- » Industry collaboration is an effective way to develop and share responsible supply chain practices.
- » Supply chain localization lowers risks, increases flexibility and improves business competitiveness.



*Direct or Tier I GM suppliers must require their direct suppliers to meet in-country environmental and safety standards, as well as GM quality standards.*

### **Supply Chain Governance**

Our Senior Vice President of Global Purchasing and Supply Chain (GPSC) is a member of GM's senior leadership team, which drives the company's strategy. This officer is responsible for working with suppliers to accelerate innovation, eliminate waste and deliver superior financial performance, while ensuring that supply chain standards are defined and understood.

GPSC is reshaping how the company and its suppliers work together, partner for mutual success and deliver greater value for our customers. Priorities for this group include:

- Accelerating innovation.
- Bringing a total enterprise approach to cost.
- Achieving waste-free value streams.
- Delivering defect-free vehicles.
- Nurturing supplier relationships.
- Enhancing a culture of safety.

GPSC has two primary forums for formal supplier engagement. The GM Supplier Business Council consists of 12 global suppliers who meet monthly with our GPSC leadership team. The second forum is a global GM Supplier Business Meeting that we webcast to our suppliers 11 months out of the

year to gain input and a consensus approach on GM-specific topics. Suppliers who participate in this webcast represent approximately 80 percent of our annual purchases for parts and services. This group also meets in person once a year. In addition, we have a dedicated internet portal for our suppliers to facilitate discussions on important issues, including policies, guidelines, standards and even our Sustainability Report.

### **Supply Chain Compliance**

We also place high expectations of excellence and ethical conduct on our suppliers, who are expected to act in a way that is consistent with our principles and values. Likewise, GM employees must hold suppliers with whom they work accountable for acting in a manner that is consistent with our Code of Conduct, Winning With Integrity.

Beyond our Code of Conduct, we outline our expectations for supplier conduct 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. We request that all of our direct suppliers certify compliance with these provisions of our contract. We follow up with those suppliers who do not confirm compliance. We also provide for our suppliers access to the GM Aware Line, Speak Up for Safety, Global Response Incident Reporting and other means to raise concerns.

Compliance within our supply chain is mandatory. When suppliers act responsibly, we reward them with greater business opportunities. Conversely, when suppliers act in a noncompliant manner, they may lose current work, future opportunities and/or



their contract can be terminated. We monitor and receive feedback on supplier performance through various tools such as Strategic Supplier Engagement and supplier business review meetings. Our Supplier of the Year program recognizes best performers.

Across the globe, we hold various workshops and provide external training to improve supplier operations, primarily in the areas of efficiency, environmental management, workplace conditions, ethics and human rights.

We require our direct or Tier I suppliers on a global basis to also require their direct suppliers to meet in-country environmental 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.

**Supply Chain Risks**

We have a multipronged approach to identify risks in the supply chain and use a variety of tools and outside resources to improve tiered visibility into our supply chain. One of these resources is Resilinc,

**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.**

a leading provider of comprehensive end-to-end supply chain resiliency solutions that include powerful supply chain mapping and analytics capabilities. In conjunction with Resilinc, our model provides real-time, 24/7 alerts to potential global supply chain disruptions caused by such events as labor disputes, human rights abuses or natural events. We have worked with Resilinc to map all Tier I suppliers globally, as well as 20,000 Tier II suppliers. This has significantly enhanced our supply chain resiliency with improved visibility into potential disruptions and faster responses to crisis events.

*Chevrolet emblems at the GM Fairfax Assembly Plant in Kansas City, Kansas.*



*GM Korea promotes shared growth with suppliers.*





SGMW workshop in Liuzhou, Guangxi, China

## GM formally supported the Automotive Industry Action Group's Guiding Principles to Enhance Sustainability Performance in the Supply Chain.

### **Industry Collaboration**

An ongoing challenge for us is striving for a sustainable and socially responsible supply chain without adding more complexity and burdens to our supplier relationships. Collaboration among auto manufacturers makes sense, particularly given the level of common suppliers among the major automakers. 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.

GM works closely with many industry and supply chain-focused organizations, including the Automotive Industry Action Group (AIAG), the National Institute of Standards and Technology (NIST), iPoint and the International Automotive Task Force (IATF). Our GM Europe and Opel operations also have joined the CSR Europe Automotive Working Group.

Industry collaboration groups are a primary forum for developing and sharing responsible supply chain practices across other automotive OEMs, Tier I and sub-tier suppliers. For example in the U.S., we are actively engaged in the AIAG and leverage its sponsored membership program to enable free membership for small sub-tier suppliers. This allows key information and tools such as responsible supply chain training materials, self assessments, best practices and standards, currently available to Tier I suppliers, to cascade to the sub-tier supply base. Each tier is responsible to ensure that their sub-tiers have compliance programs. We also require all of our supplier quality employees who visit supplier facilities to take AIAG training regarding responsible working conditions, including child labor.

GM formally supported the AIAG's Guiding Principles to Enhance Sustainability Performance in the Supply Chain. These principles are targeted at the entire automotive supply base and were launched in partnership with CSR Europe. GM supported this initiative by having its director of



sustainability represent the company on the AIAG Corporate Responsibility Steering Committee and actively contribute to the development of the principles. GM has also communicated these principles on its website dedicated to all suppliers.

Additionally, very specific requirements regarding responsible supply chain practices have been added to the new IATF 16949 Quality Standards. These requirements include:

- An employee code of conduct,
- An anti-bribery policy,
- An anti-retaliation whistle-blowing process.

This was the result of global industry collaboration between several standard-setting bodies OEMs and Tier I suppliers. Compliance to the IATF 16949 is a requirement for GM suppliers and needs to be met by 2018. Supplier quality audits will enforce highlighting the importance to our company of responsible business practices.

### **Localization**

Localization is another important tenet of our value chain. When we build where we sell and buy where we build, our vehicles are more competitive because they enjoy pricing benefits and can be built to suit unique local requirements 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 natural, political or other causes. Furthermore, when we work with local suppliers, we also support the local economies of communities where 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 logistics planning to maximize the benefits of localization.



# How We Measure Progress

**\$90 Billion**

Approximate Annual Supply Chain Spend

**~21,700**

Global Suppliers

**~200,000**

Items and Services Purchased

**84%**

Tier I Suppliers Audited

**5%**

Tier I Suppliers Identified as Critical

**100%**

Supplier Contract Templates Include ESG Factors

**700+**

GM Quality & Supply Chain Employees Receiving Sustainability & Working Conditions Training

**11%**

Ranking Improvement in 2016 Planning Perspectives Inc. Supplier Relations Study

**1,041**

Supplier Employees Completed Automotive Industry Action Group Training

## CDP Supply Chain Initiative

**134**

Participants

**8 Million Tonnes**

Reported CO2 Emissions

**\$1.2 Billion**

Savings Through Energy-Efficiency & Use-Reduction Initiatives

## Local Sourcing

**70%-80%**

North & South America

**60%-70%**

Europe & International

**80%**

China

## Supplier Diversity

**\$7.0 Billion**

2016 U.S. and Canadian Spend

## Conflict Minerals

**3,500+**

Reporting Supplier Locations

**106**

Smelters & Refiners Contacted by GM to Join Conflict-Free Smelter Program

# Actions to Move Us Forward

## IMPROVE SUPPLIER RELATIONSHIPS

Each year, Planning Perspectives, Inc. (PPI) surveys tens of thousands of companies to gauge their working experiences with the companies they supply with products and services. In the 2016 PPI Supplier Relations Study, our ranking improved by 11 percent over 2015, more than any other automaker in the study. This recognition, coming

from our trusted suppliers, is a testament to the work undertaken at every level of GM to nurture our supply chain relationships. While there is still work for us to do, our successes to date show that GM has the solid foundation to continue to foster positive supplier relationships that support our strong business growth.

**11%**  
improvement in  
supplier relations  
ranking

## ENGAGE SUPPLIERS

We regard suppliers as an extension of our own operations, so it makes sense to find opportunities to share best practices, explore new solutions and improve mutual performance when and where possible.

### *Supplier Sustainability Summit*

We hosted our first Supplier Sustainability Summit in 2016. We invited 150 of our suppliers to attend the day-long event, where we shared how our sustainability work aligns with our global purchasing and supply chain goals, as well as how sustainable practices drive long-term stakeholder value on the top and bottom lines and reduce business risks. Global GM executives shared best practices and lessons learned through our work in energy management, renewable energy, conflict minerals, waste reduction and more. BASF and Interface, two GM suppliers, also presented how they are benefitting from bringing sustainability to the core of their operations. Suppliers who attended the Summit in person or online shared how valuable they found these presentations, and several requested follow-up meetings to continue the discussion.

### *Supplier Networking Forums*

Realizing the value of cross-functional networks and collaboration, our Recycled Content Team has institutionalized a forum to broaden the exposure of potential new suppliers within GM. This team is charged with seeking out more efficient and effective materials with a focus on those that are bio-based and recycled. On a routine basis, they hold forums in which a supplier is invited to personally present new materials and capabilities.

The team, however, recognized early on that these presentations could spark valuable ideas and discussion beyond the area of their focus. As a result, these forums are now open to a wide swath of GM experts in areas such as materials engineering, design release engineering, product development, manufacturing, marketing and sustainability. Often, the outcomes of connections and discussions within a forum result in unanticipated wins. A waste management expert in our facilities group, for example, recognized a potential application from a forum with a plastics supplier. The result has led to an innovative process in which plastic water





bottles are processed into two types of vehicle components. Read more [here](#).

### China Suppliers Reduce Energy Use

During 2016, GM China concluded a year-long environmental supply chain project, in which eight of our China-based suppliers committed to reducing their energy impact while growing their businesses. Over the course of the year, GM China provided training, third-party energy audits and support in implementing conservation projects at these suppliers' facilities. The suppliers implemented 64 projects that aimed to reduce facility noise and emissions, improve facility lighting and better manage their energy use. Together, the eight suppliers eliminated more than 5,500 metric tons of CO2 emissions, equivalent to growing 142,000 trees in the U.S. for 10 years, while also generating annual savings of more than US\$1.3 million for the suppliers. The 64 projects



had an average payback of just over one year. We are doing this again in 2017, and have doubled the number of suppliers participating.

## 2016 CDP Supply Chain Climate Change and Water Reporting Key Highlights

Using insights from our lifecycle assessments, we engage with suppliers through CDP Supply Chain Reporting and Action Exchange for GHG Reduction. Quantification helps us prioritize Tier I impact and identify specific industries in other tiers where 5 percent of our total impact occurs.

### CLIMATE CHANGE REPORTING

**70%**  
Response Rate

**93%**  
Climate-Change Risks

**71%**  
Emissions – Reduction Targets

**88%**  
Emissions – Reduction Activities

### WATER REPORTING

**55%**  
Response Rate

**76%**  
Measure Consumption

**61%**  
Risk Assessment

**63%**  
Company-Wide Reporting

According to CDP GM has above average supplier reporting.



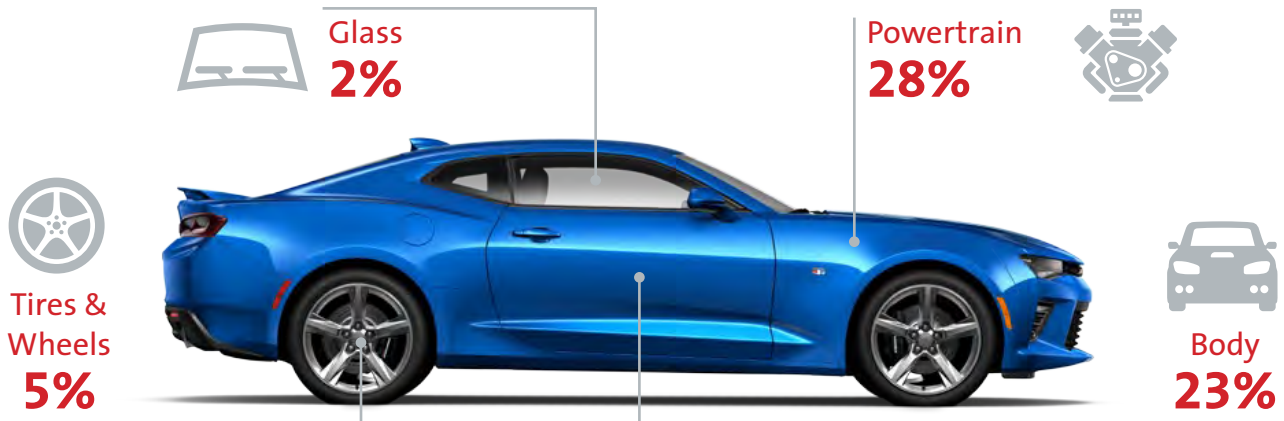
## COLLABORATE ON TRAINING AND CAPACITY-BUILDING

Supply Chain Responsibility Training is a great example of how we collaborate through industry partnerships, in this case with AIAG. The 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. Over the past year, these workshops have been held in Brazil, China and Mexico, with invitations to local suppliers in those regions. Additionally, we collaborate with other OEMs through AIAG to fund regional supplier workshops on supply chain sustainability and working conditions.

## LIFECYCLE ANALYSIS TO MANAGE SUPPLY CHAIN IMPACT

We use lifecycle analysis (LCA) to help us pinpoint where our supply chain's greatest environmental impacts occur and prioritize our resources. Ongoing analysis helps us monitor and manage sustainability trends within our supply base as automotive technologies change.



Our largest **GHG IMPACT** occurs among Tier II suppliers.

Direct parts represent **87%** of the carbon footprint of a GM vehicle, excluding customer use.

Our largest **WATER IMPACT** occurs among Tier III suppliers.



## ENFORCE & SAFEGUARD USE OF CONFLICT MINERALS

Annual SEC disclosure of conflict mineral sourcing is fully integrated into our business processes. A dedicated team conducts due diligence, analyzes findings and reports conflict mineral information from our supply base that encompasses more than 3,500 supplier locations. Governance processes include a compliance committee of multifunctional GM leaders and an executive steering committee to provide leadership and direction for the program.

Beyond our own reporting activities, we work with our own supplier base regularly to increase education and awareness, including conducting periodic webinars and providing a dedicated email contact to answer specific questions. We continue to collaborate with others in the industry to educate suppliers. We co-chair the AIAG Conflict Minerals Work Group, which works on common automotive industry solutions with other OEMs and suppliers.

In early 2017, GM became a signatory to the Declaration of Support for the Responsible Raw Materials Initiative (RRMI). This initiative provides us with an opportunity to work collaboratively

across industries on various human rights issues concerning other materials, such as cobalt, that do not fall under conflict mineral legislation. RRMI promotes member and stakeholder engagement, education and participation through an active advocacy focus on the salient social and environmental impacts of extraction and processing of raw material in international supply chains.

Through our membership in the Conflict-Free Sourcing Initiative (CFSI), we help fund an audit program to increase the number of smelters and refiners in the Conflict-Free Smelter Program (CFSP). Through the end of 2016, 106 smelters and refiners have been contacted by GM and encouraged to complete the audit program so that they can join CFSP. For the first time, we visited tin smelters in Vietnam to assist them in preparing for the independent third-party audit that is part of the CFSP membership. We also are contributing to the Electronic Industry Citizenship Coalition (EICC) Foundation and Initial Audit Fund, which supports smelters and refiners who may not be able to fund the cost of their first audit needed to join the program.

**Read Our Conflict Minerals Policy.**  
[Learn more here.](#)

## ASSESS SUPPLY CHAIN COMPLIANCE PROGRAM

Driven by evolving legal and societal expectations, new regulations and our rapid adoption of new technologies associated with increased electronic content in GM vehicles, we engaged a respected third-party firm in 2016 to perform an assessment of our Supply Chain Compliance Program. The assessment provided perspectives regarding our Program’s strategy, organizational design and documentation methods, as well as reviewing the current state of program elements and related compliance and supply chain risk activities. The scope included Tier I suppliers of direct materials to U.S. operations. Specific subject matter involved labor and employment practices, specifically the issues of forced labor, child labor and other human rights under the UN Global Compact. Comparisons were made among leading practices both within the auto industry and other industries.

Observed Strengths	Strategic Priorities for Enhancement
Leadership sets clear tone; regular supplier communication; alignment with credible external guidelines, principles and/or frameworks.	Formalize governance structure.
Robust set of existing processes and procedures that can be easily leveraged to enhance supply chain compliance.	Establish objectives and provide periodic updates on progress to objectives.
General contract terms and conditions include explicit requirements that must be met related to employment and labor; company enforces requirements; corrective actions taken when issues identified.	Expand current risk assessment activities.
Awareline widely used to report supply chain issues of concern; good incident management system.	Become more involved in issue-specific external initiatives, both in the automotive industry and cross-industry, for continuous improvement.





Marilyn Smith  
Manager of GM Conflict Minerals Program

## Q&A A GROWING STRATEGIC FOCUS

### A CONVERSATION WITH MARILYN SMITH, MANAGER OF GM CONFLICT MINERALS PROGRAM

**Q** Why are conflict minerals important to GM and its vehicle production?

**A** All four conflict minerals – tantalum, tin, tungsten and gold – have a distinct role in many parts of our vehicles. As electrification technologies are incorporated into more and more GM models, our use of these minerals will increase and their strategic importance will grow.

**Q** Are there other minerals of concern beyond the four identified as conflict minerals?

**A** We've been concerned about reliance on rare earth minerals, and that's why we've largely engineered them out of our electric vehicles. Today, there is a growing focus on cobalt, which is used in lithium-ion batteries. GM recently joined the Responsible Raw Materials Initiative (RRMI) that was cofounded by the Electronic Industry Citizenship Coalition and the Conflict-Free Sourcing Initiative. The RRMI seeks to advance select initiatives to drive meaningful improvement in the mining sector, with cobalt mining identified as a priority.

**Q** How does GM's conflict minerals program compare with that of other companies?

**A** A recent third-party report scores companies in two areas – SEC compliance and Organization for Economic Co-operation and Development (OECD) conformance, which looks at due diligence frameworks that go beyond simple disclosure. GM scored 93 out of 100 in both areas, putting us well into the top 10 percent of 1,200 filing companies. We also were pleased to be named one of 15 influencers, a designation which looks at revenues and compliance scores to determine which companies have the most influence on conflict minerals and responsible sourcing. This new measure groups us with Apple, Google, Hewlett-Packard, Intel and others who are respected leaders in this area.

**Q** What new developments are on the horizon in conflict mineral reporting?

**A** There is growing recognition of the need for reporting in other regions of the world. For example, legislation is moving through the European Union for required reporting of direct importers of conflict minerals.

## SOURCE SUSTAINABLE RUBBER

As one of the world's largest automakers, our demand for materials can help shape the industries of our suppliers. GM is helping drive tire manufacturers toward net-zero deforestation and upholding human and labor rights by making an industry-first commitment to source sustainable natural rubber in our tires.

Sustainable rubber benefits communities, businesses and the environment. The practice improves yield and quality for natural rubber farmers, further supporting the small businesses that contribute 85 percent of this material. It also preserves primary forests, which are critical to addressing climate change and protecting wildlife. Finally it mitigates business risk by helping to ensure long-term availability of a key commodity.

As tire manufacturers develop sustainable natural rubber policies, GM will work with them and with governments, rubber industry associations and environmental NGOs to increase alignment and reduce supply chain complexity. GM is also working with suppliers such as Bridgestone, Continental, Goodyear and Michelin to improve traceability of natural rubber throughout the supply chain. To accelerate our progress, we're encouraging other automakers and suppliers to join the effort and demand more sustainable tires.



# PERSONAL MOBILITY

Aspiration: Mobility for Everyone, Everywhere



# What We Aspire To Do

## MOBILITY FOR EVERYONE, EVERYWHERE

We believe the automotive industry is changing more today than it has in the past 50 years. A global population shift toward cities and changing demographics that include an aging Baby Boomer generation and coming-of-age millennials is driving this change. In addition, significant advances in areas such as electrification, connectivity and autonomous technology are being realized. Combined, these changes provide us with an enormous opportunity to offer new transportation services, provide mobility access for everyone, and improve congestion, air quality and vehicle safety. In short, we have a generational opportunity to create a world where sustainable transportation is a reality for daily life.

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# Our Management Approach to Personal Mobility

## Evolving New Business Models for Mobility

As the nature of transportation rapidly evolves, our customers and their desires are changing just as quickly. There is a new demand for transportation access that doesn't necessarily include ownership. Although car ownership will stay strong in large parts of the U.S. and around the world, people everywhere, and especially the growing population in cities, are clamoring for a different type of relationship with transportation. This shift provides us with a tremendous opportunity to engage them through personalized, premium, on-demand mobility solutions that connect them to the people, places and moments that matter to them.

Our view of the customer also is evolving and no longer confined to someone who purchases a vehicle at a dealership. In many markets, our customer becomes anyone who needs to move efficiently from point A to point B. That customer may end up purchasing a product and/or a service from us. Through the process of meeting these needs, we aim to broaden the perception of GM from an automaker to a global mobility solutions provider. Our "product" moves beyond the vehicle to become a means of accessing shared modes of transportation. GM's strength in this area lies in using the power of our underlying infrastructure and connectivity to create integrated service solutions in the most comprehensive and seamless manner possible.

### Key Takeaways

- » Currently the automotive industry is undergoing more change than it has in the past 50 years, which is driving the evolution of new personal mobility models.
- » GM aims to broaden its perception among customers from an automaker to a mobility solutions provider, helping them move from point A to point B in a variety of ways.
- » Connectivity is a critical enabler of new mobility solutions and emerging vehicle technologies, both of which have the potential to enhance safety, relieve congestion and improve fuel economy.
- » We have a unique leadership position in connected vehicle technology, thanks to two decades of experience with OnStar.

### Role of Connectivity

Connectivity is a foundational enabler of this future – on-demand car-sharing, autonomous vehicles, greatly improved vehicle safety and more all rely on ubiquitous connectivity. GM's two decades' experience building our OnStar in-vehicle safety, security, diagnostic, navigation and connectivity service makes us the most connected automaker on the planet. We're refining the tools to harness the data and analytics that connected cars are generating, and in doing so we're helping weave the fabric of a new generation of intelligent vehicles that provide societal benefits such as:

- Enhancing safety by reducing the likelihood of vehicle crashes through new technology, such



*Lots of people say they love to drive, but I haven't met anyone yet who says they love their commute.*

GM President Dan Ammann



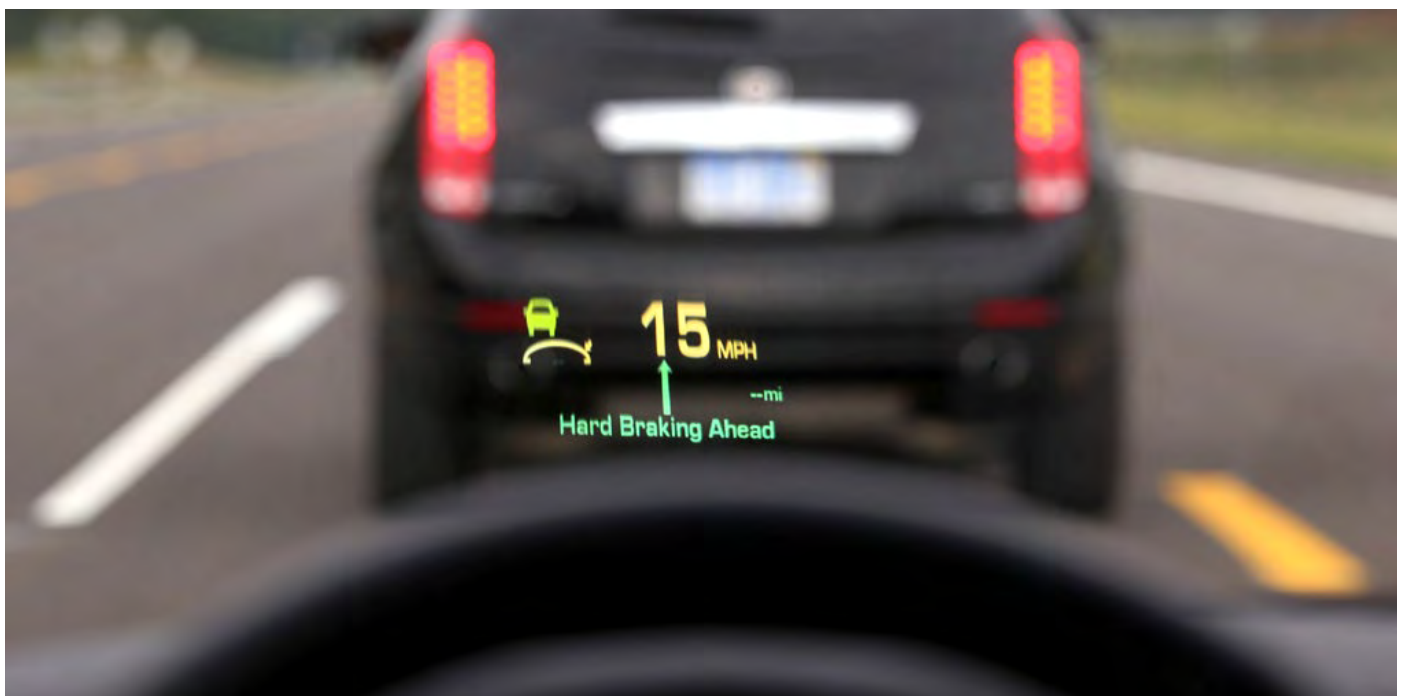
as autonomous driving and vehicle-to-vehicle (V2V) connectivity.

- Relieving congestion by using existing vehicle fleets more efficiently with car- and ride-sharing and multimodal transportation systems applications, as well as GPS navigation apps.
- Encouraging electric vehicle and advanced technology adoption by consumers through applications that increase the ease and convenience, for example, of EV charging.
- Improving fuel economy through environmental route optimization that allows for shorter travel time, less engine idling or fewer elevation changes – especially valuable to EV drivers.

In this emerging world of connected mobility, GM has established a unique leadership position that draws upon more than 1.5 billion customer interactions with OnStar. Equally as important, OnStar has provided us with an understanding and appreciation that offering a vehicle with the latest technology is only meaningful when it is seamlessly integrated, as well as consistent and relevant to our customers. This is why we continue to build upon our own core capabilities in this space, where we have 300 patents, balanced with the integration of third-party technologies such as Apple CarPlay and Android Auto.

The future of mobility is taking shape around us, and GM is proud to deliver mobility experiences that are on-demand, personalized and easy to use, and that give our customers a seamless transportation experience using the advanced features of the future, today.

*GM's vehicle to vehicle (V2V) communication technology has the potential to mitigate many traffic collisions by sending and receiving basic safety information, such as location, speed and direction of travel, between vehicles that are approaching each other.*





# How We Measure Progress

## Mobility Solutions

**32,566**

Maven & Express  
Drivers

**104 Million**

Maven Miles Driven

**42,282**

Maven Reservations

**17**

Maven U.S. Cities

*Figures as of April 3, 2017*

## 4G LTE Connectivity

**5 Million**

OnStar 4G LTE-Equipped  
Vehicles

## OnStar

Up to  
**245,000**  
Calls per Day

**12 Million**  
Connected Customers

**4**

Continents

**5,000+**  
Emergency Responses  
Monthly

**1.5 Billion**  
Customer Interactions  
Since 1996



# Actions to Move Us Forward

## LAUNCH SERVICES FOR THE SHARED ECONOMY

Shared mobility plays an increasingly important part in how the world travels from one destination to the next. At GM, we believe shared mobility complements the traditional owner-driver business model. Our global scale, dealer network, customer knowledge, fleet management and OnStar connectivity expertise make us ideally suited to converting shared mobility services into business opportunities. From a business

membership fee to use a vehicle. Maven City vehicles include full-featured models, such as the Chevy Volt, offer OnStar service, Apple CarPlay™ and innovative safety features. Maven City is competitively priced and available to drivers 18 years and older. The service benefits GM and its dealers strategically by getting new groups of drivers behind the wheel of GM vehicles. After one year of operation, Maven was available in 13 cities.

**In early 2016, we launched Maven, our new personal mobility brand that provides frictionless and seamless access to transportation.**

standpoint, car-sharing puts GM in front of large demographic groups, including college students, millennials and older people moving back into cities, who may not be as familiar with GM brands and models.

In early 2016, we launched Maven, our new personal mobility brand that provides frictionless and seamless access to transportation, with three products that offer highly personalized, mobility-on-demand services.

### ***Maven City***

Our car-sharing service uses the smartphone as its primary interface and requires no

### ***Maven Home***

An exclusive car-sharing program for residential communities. Approved participants have 24/7 access to a variety of vehicles, conveniently parked in the related residential community parking garages. Maven Home brings GM's vehicle fleet experience to the car-sharing world and brings convenience together with competitive pricing and high-end vehicles. As of January 2017, this product was available in three U.S. cities.

### ***Express Drive***

A partnership with Lyft, in which we buy back vehicles at auction and rent this fleet on a short-term basis to Lyft drivers who either don't want to use their own car or whose personal vehicles don't qualify for Lyft service. Express Drive customers get to choose their make and model, which are primarily our small- to mid-sized vehicles like the Chevy Malibu, GMC Terrain and Chevy Trax. There are more than 3,100 vehicles currently enrolled in this program in 12 cities.

In late 2016, we launched a pilot program with Uber to offer their drivers in the San Francisco area the ability to use GM vehicles at discounted rates with no mileage limits while driving and earning money on the Uber platform. Vehicles offered in the pilot include the Chevrolet Cruze, Malibu and Trax.

**Maven Pro**

Our corporate car-sharing solution offers companies a campus solution for managing vehicle fleets. Employees can use a smartphone app to access a pool of company-owned vehicles, allowing companies to optimize the use of their vehicles and reduce fleet costs. We piloted Maven Pro at GM facilities in Australia, Brazil, China and the U.S. in 2016.

As Maven enters its second year of operations, the brand is expanding internationally and continuing to incubate new ideas including:

- Debuting campus car-sharing services at GM do Brasil and at GM Australia/Holden headquarters. A dynamic shuttle program has launched at the GM China Shanghai Campus.
- Launching a new app-based shuttle service, the Maven Shuttle Program, at the GM Global Technical Center in Warren. Campus shuttles will be available on demand, and users may request pickup and drop-off locations by using a dynamic app.
- Filing multiple technology patents to help make car sharing more intelligent.

*Employees can use a smartphone app to access a pool of company-owned vehicles, allowing companies to optimize the use of their vehicles and reduce fleet costs.*



**Q&A**

**WITH PETER KOSAK, EXECUTIVE DIRECTOR, URBAN MOBILITY**



**Q** What’s behind the brand name “Maven?”

**A** We picked “Maven” because literally a maven is someone who is an expert or a connoisseur. Someone who is knowledgeable about the choices they make. And that’s what this new era of transportation is going to be about – choice and access.

**Q** Anecdotally, what sort of dynamics are driving the Lyft partnership?

**A** We’ve had workshops with Lyft leadership to work through what the user experience is like. And it’s very interesting to see creative designers and engineers from General Motors, a 100-year-old company, come together with the leaders of Lyft. You get a different kind of catalyst and a very different kind of conversation than if they were inside their four walls, or if we were inside our four walls. It’s a very volatile mix – a sort of a microcosm of disruption.

**Q** How do you see “the Internet of Things” and the sharing economy shaping the future of transportation?

**A** There’s an intersection of several dynamics occurring right now, and a major enabler is connectivity, driven by smartphones. So fusing personal devices and embedding connectivity in the vehicle in different form factors, plus adding in autonomous technologies and electrification, is a blueprint for a very different future overall. It’s the crossing of these streams at this point in time – changing attitudes on the demand side and new technological enablers on supply side – that really is the flashpoint for things to move quickly.

**Q** People are curious about the breakdown of focusing on mobility in suburban areas versus city centers. How are you approaching that?

**A** The suburban/urban challenge is one of the biggest. You go to any environment and it’s commuter pooling. Transportation infrastructures are sized for morning and evening commutes, and not sized well because congestion, whether it’s traffic or parking, is so horrible. So working on mobility solutions that are not just urban, but also suburban enables us to focus on how people are able to live outside cities and get into cities in a very efficient way. Services like dynamic shuttles and peer-to-peer pooling are very big opportunities.



# MAVEN

A YEAR OF EXPLOSIVE GROWTH

LAUNCH JANUARY 23, 2016

**3** Products      **17** U.S. Cities      **3** Countries

## 2016 CUMULATIVE MILES DRIVEN (in millions)



As of 4/3/17, 104 million cumulative miles driven



### MAVEN CITY

- Ann Arbor, MI
- Atlanta
- Baltimore
- Boston
- Chicago
- Denver
- Detroit
- Jersey City, NJ
- Los Angeles
- Orlando
- San Francisco
- Washington, DC
- Waterloo, Canada



### MAVEN HOME

- New York City
- San Francisco
- Washington, DC



### EXPRESS DRIVE

- Atlanta
- Baltimore
- Boston
- Chicago
- Detroit
- Los Angeles
- Nashville
- Phoenix
- San Diego
- San Francisco
- Washington, DC



## INCREASE CYBERSECURITY IN CONNECTED VEHICLES

We believe that the convergence of connectivity, ride sharing and autonomous vehicles will shape the future of personal mobility. These interconnected trends and technologies are allowing GM and the auto industry to stretch the boundaries of what is possible for consumer transportation. While today's technology creates many new and exciting opportunities, it also creates challenges, with cybersecurity one of the biggest.

Two factors are contributing to cybersecurity risks for today's auto industry: One is the fact that personal data is increasingly stored and or transmitted through our vehicle networks, and the other is the complexity of vehicles – the average car today contains more lines of code than an F-35 fighter jet, which opens opportunities for those who want to do harm through cyber attacks.

Robust cybersecurity measures protect not only the physical safety of our customers, but also their privacy and their data. We have always viewed cybersecurity as a systemic concern in which the auto industry's collective customers and society as a whole are best served with industry-wide collaboration and sharing of best practices. Not only is it important that we design our products with cybersecurity in mind, but we also need to work together to develop the capabilities to detect cyber incidents, protect against these attacks, and mitigate the consequences when and if they occur.



### Cybersecurity Initiatives

This is why we have made cybersecurity a top priority. We've established a dedicated cybersecurity organization headed by a senior executive who also serves as vice chair of the Automotive Information Sharing and Analysis Center. This organization recently published a Product Cybersecurity Policy for Secure Development Lifecycle that is applicable to vehicles and connected vehicle services. Implementing this policy will help protect our customers and our company by focusing on the security of vehicle electronic control systems from unauthorized outside access and the security of customers' data made available by or through the vehicle, or in connection with connected vehicle services, including personal information. In addition, we have developed a strong relationship with The White Hat research community, inviting researchers and cybersecurity experts to identify vulnerabilities in our systems, an approach that Silicon Valley has practiced for years, but which few companies have embraced beyond the software industry.

We are committed to expanding and evolving this program, and working with the research community to improve our cybersecurity posture. We have a strong commitment to unswervingly collaborate within our industry and with other industries, governments and researchers to address our shared cybersecurity issues and concerns. We pledge to work together to leverage our collective strengths and knowledge to protect our customers and their privacy every time they get into a GM vehicle.



## ACCELERATE THE FUTURE OF AUTONOMOUS VEHICLES

*General Motors has begun testing fully autonomous development fleet vehicles on public roads in Michigan and Arizona.*

The rise of autonomous vehicles will offer major changes to personal mobility and to GM's core business. We foresee that personal automobile ownership will dominate long into the future, especially in our core markets of trucks and SUVs, and there is a strong demand for mobility companies in the world's cities. Ride-sharing companies like Maven and autonomous vehicles can help city-dwellers avoid heavy traffic, steep parking prices and high insurance costs – not to mention improving the safety of urban transit. These services also offer greater mobility to people who are currently unable to drive, including seniors and people with disabilities. We see the autonomous vehicle of the future improving every aspect of mobility and are working hard to make that future a reality in the near term.

### Cruise Acquisition

Our effort accelerated in early 2016, when we acquired Cruise Automation, adding the company's deep software talent and autonomous-vehicle expertise to further accelerate our development of autonomous vehicle technology. Cruise operates within our larger Autonomous Vehicle Development Team and provides us with a unique technology advantage that is unmatched in our industry. This acquisition is helping us achieve our vision to bring our customers greater convenience, lower cost and improved safety for their daily mobility needs.

### Autonomous Testing

In June, we began testing autonomous Chevrolet Bolt EVs on public roads and real-world conditions in San Francisco and Scottsdale, Arizona. We now have more than 50 autonomous test vehicles in these two cities, as well as metro Detroit. Our tests, especially in San Francisco, allow us to operate under extremely dynamic, dense and congested conditions, so we can ensure that the car can handle the rigors of city driving.

Beginning in early 2017, we began producing the next generation of autonomous test vehicles at our Orion Township, Michigan assembly plant. There, workers will build test fleet Bolt EVs equipped with fully autonomous technology. The new equipment will include LIDAR, cameras, sensors and other hardware designed to provide system safety, leveraging GM's proven manufacturing quality standards.

We anticipate providing the Chevy Bolt EV as our first fully autonomous vehicle available for the public to use through an on-demand ride sharing network. We are aggressively developing the technology, and are committed to delivering it to



the public when it meets our high standards for safety, quality and performance.

*Cruise Automation co-founders Daniel Kan (left) and Kyle Vogt (center) with General Motors President Dan Ammann.*

Also in 2017, we will bring an advanced-driver assist technology called "Super Cruise" to market. This new feature, which will be offered on the Cadillac CT6, provides customers with a driving experience that works with Adaptive Cruise Control to provide hands-off, automatic lane centering on limited-access highways. The system is designed to increase driver safety, convenience and reduce stress both in bumper-to-bumper traffic and on long road trips.



## CO-CREATE AUTONOMOUS VEHICLE PUBLIC POLICY

Across the country at the state and federal level, regulators and legislators are actively considering how to help foster and shape the evolution of automated vehicles. GM is committed to being a full-fledged partner to policymakers in this process. GM Chairman & CEO Mary Barra, for example, is co-chairing with Los Angeles Mayor Eric Garcetti a new Federal Advisory Committee, formed by the U.S. Department of Transportation, focused on the impact of automation on all modes of travel, including automated vehicles. The committee will advise on self-driving transportation policy in order to address the development and deployment of automated vehicles, among other issues, and on determining the needs of the U.S. DOT as it continues with its relevant research, policy, and regulations.

In Michigan, we worked closely with stakeholders and lawmakers on the enactment of a package of laws that enable the state to be at the forefront of this next major transition in the automotive industry. In other states, we are encouraging dialogue across similar stakeholders to ensure an open and transparent process, allowing proper testing and deployment so that individuals can experience the benefits of autonomous vehicles and policy-makers can gain real-world experience to further the policy implications. We believe actively innovating together, while sharing learning and insights, will build a more robust, transparent system towards safely deploying autonomous vehicle technologies.



# COMMUNITY

Aspiration: Safe, Smart & Sustainable Communities



# What We Aspire To Do

## SAFE, SMART & SUSTAINABLE COMMUNITIES

One of our corporate purposes is to serve and improve the communities in which we live and work around the world. Business sustainability is directly linked to the health of the communities in which GM and its customers reside. Our mutual long-term success is interdependent with these communities as we share many of the same natural resources and depend upon a local workforce of talented individuals. We have a strategic interest in that workforce being well-educated, particularly in the areas of science, technology, engineering and math (STEM), given the increasing level of advanced technology in the automotive industry. Our business viability also has both direct and indirect impacts on local economic vitality in the form of providing jobs and contributing to the local tax base.

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# Our Management Approach to Community

## Investing in Safe, Smart & Sustainable Communities

We know we do well by doing good. This is why we work to ensure that community programs are embedded in our decision-making and business processes around the world. Over the past year, we've transitioned to a new social impact strategy that will accelerate our efforts. This strategy places a sharp focus on investments that create sustainable economic growth around the world and an approach that allows us to create and measure positive social change and business outcomes. Our strategy is built around three key pillars: STEM education, vehicle and road safety, and sustainable communities.

### **STEM Education**

Technological innovation is driving a sea change in the automotive industry. Today's vehicles have tens of millions of lines of digital code and integrate thousands of parts. This makes science, technology, engineering and math (STEM) education more important than ever to training the workforce of tomorrow. Yet, too few students are pursuing STEM-related education and degrees, leading to a looming talent gap for our future workforce.

The United States ranks 20th among nations in the proportion of 24-year-olds who earn degrees in natural sciences and engineering, with the lowest ratios of STEM to non-STEM bachelor's degrees in the world (OECD, 2014). Today, half of Fortune 500 companies report not being able to find qualified candidates with four-year STEM degrees in a timely manner.

There are several key challenges across the STEM pipeline. A low early-level proficiency rate continues to limit adoption of and persistence in STEM subjects at future levels of education. According to 2009 Programme for International Student Assessment scores for the U.S., only 34 percent of eighth graders scored "proficient" or above in math, and only 30 percent were proficient in science. Similar trends continue through high school. In 2014, the number of U.S. students earning graduate degrees in science and engineering fell 5 percent from its peak in

### **Key Takeaways**

- » Our new social impact strategy focuses on investments that create sustainable, measurable economic growth around the world through three pillars: STEM education, vehicle and road safety, and sustainable communities.
- » The United States lags behind other nations in its pipeline of STEM talent, particularly among women and minorities. GM is involved in hundreds of STEM initiatives to help reverse this trend.
- » We provide education and training to help reduce vehicle-related injuries and fatalities.
- » We invest in communities across the world and near our hometown headquarters in Detroit, Michigan.
- » When plant closures or business downsizing are necessary, we work with local governments to minimize economic and social disruptions to the communities in which we operate.



*Vehicle and road safety, along with STEM education, are two primary focuses of our new social impact strategy.*



2008 (National Center for Science and Engineering Statistics). The drop is also indicative of a leak in the STEM pipeline, where a large number of students are switching from STEM fields to other areas of study.

Gaps between men and women, and between whites and minorities, also remain entrenched. As the number of white students who earned STEM degrees grew 15 percent in the last five years, the number of black students fell by roughly the same margin (US News/Raytheon STEM Index, 2016). Women lag behind men overall in exam scores and in the number of STEM degrees granted.

Given the strategic importance of STEM education to the long-term sustainability of our business, GM and our employees are involved in hundreds of STEM education initiatives around the world annually. Taking a data-driven approach toward solving some of the challenges outlined, we are closely analyzing our ecosystem, identifying pain points, understanding the root causes and collaborating with the right partners to develop a

program portfolio that will enable us to address specific issues and make incremental progress toward achieving our social outcomes.

**Vehicle and Road Safety**

In keeping with GM's value that safety and quality are foundational commitments, the second focus area of our strategy guides us to support global efforts to increase safe practices in and around vehicles. Our focus is on parents, grandparents, young drivers and children. We know motor vehicle crashes are the number one cause of unintentional death among children ages 1-19. Further, six teens ages 16-19 die every day from motor vehicle injuries.

Through education and training we aim to reduce the number of vehicle-related injuries and deaths by increasing the number of drivers and passengers who use seat belts and restraints, decreasing the number of distracted drivers, raising awareness of road safety issues and improving the knowledge and skills of those behind the wheel.

**Sustainable Communities**

Our third focus area spotlights holistic efforts to support the poorest districts and neighborhoods in select global communities, with a mission of strengthening neighborhoods and empowering residents. Our funding supports urban renewal and neighborhood revitalization projects, as well as efforts to improve education and skill-building to help youth and adults earn and keep good jobs.

## GM Pillar Impact Strategy

	STEM	VEHICLE & ROAD SAFETY	SUSTAINABLE COMMUNITIES
<b>Target Indicator</b>	Number of students with employable labor skills for careers in STEM	The number of vehicle-related injuries and deaths	Percentage of youth and adults who have the requisite skills for employment and decent jobs
<b>Social Outcomes</b>	<p>Increase the number of students who earn a STEM degree that matches market needs</p> <p>.....</p> <p>Increase the presence, achievement and persistence for underrepresented minorities in STEM fields</p> <p>.....</p> <p>Increase the supply of qualified teachers for teacher training in STEM-related subjects</p>	<p>Increase seat belt and restraint usage</p> <p>.....</p> <p>Address driver distraction through integrated technology and awareness</p> <p>.....</p> <p>Raise awareness and knowledge of vehicle and road safety issues</p>	<p>Increase the number of people who improve education levels and/or marketable technical and vocational skills</p> <p>.....</p> <p>Reduce the number of high school students who are not college-ready</p> <p>.....</p> <p>Support neighborhood revitalization and urban renewal programs</p>
<b>Program Population</b>	Students (3rd-12th grade, college), with a special emphasis on women and minorities	Parents, grandparents, young drivers and children	The poorest districts and neighborhoods within select global communities

Our global giving strategy is strengthened by two platforms: hometown giving and community partnerships. GM is a global organization with a worldwide marketplace, but we are proud to call Detroit, Michigan, our hometown headquarters. We employ approximately 30,000 people in Detroit, so we have a strong business interest in strengthening the city and supporting the city’s talent flow.

Student success sits at the forefront of sustainable prosperity in the region. The most recent Department of Education study approximates that 58 percent of school-age children are chronically absent from school. The 2015 U.S. Census Bureau statistics show 55 percent of children ages 5-17 live in poverty and with food scarcity issues. Children who are chronically absent cannot benefit from school food programs, are at higher risk of not reaching early learning milestones and have higher student drop-out rates. GM’s focused strategic approach to solving local social issues in our hometown allows us to target pressing social challenges in the city, including low high-school graduation rates, a deficit in youth and adult literacy and student access to nutritious food by reducing chronic absenteeism. GM is committed to advancing education for all students in Detroit.

In the communities where we live, work and play, GM invests financial resources and dedicates our

employees’ skills to foster community relationships. We partner with organizations at the local level to address specific needs that vary from city to city, complementing our global and national partnerships to make the greatest positive impacts. In 2017, we will launch an open application process, with every prospective partner required to select a GM priority-aligned program goal and specific social outcome(s) their work will target. This alignment ensures our grantees will aim to use our dollars to make quantifiable positive impacts in our giving focus areas.

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, for example, where engineering operations are downsizing and vehicle manufacturing will be discontinued by the end of 2017, we are contributing AUD15 million to a reskilling 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.



# How We Measure Progress

## Vehicle and Road Safety



**2 Million**  
**Car Seats**

Inspected Through Safe Kids



**700,000+**  
**Car Seats**

Provided



**\$70 Million**

Donated to Safe Kids



**3 Countries**

with Safe Kids  
Partnerships

## Environmental STEM Education

**86**

Programs

**25,631**

Students Impacted

**17,000**

Students Mentored Annually  
through GM Global Environmental  
Education Programs

## Sustainable Communities

**\$29,721,599**  
**Million**

U.S. Social Impact Investment

**\$1,722,500**  
**Million**

Community Impact Grants

## Volunteer Activities



**110,000**

Hours



**12,000**

Volunteers



**200**

Projects



**148**

Nonprofits/Groups  
Touched



# Actions to Move Us Forward

## EMPOWER GIRLS TO CODE

In 1995, women made up 37 percent of the computing workforce. Today, that number is even lower: 24 percent. The future looks even bleaker, with women comprising less than 18 percent of recent computer science graduates. This trend presents a huge challenge for the U.S. economy and its long-term global competitiveness.

more U.S. middle and high school girls to pursue technology and engineering.

To kick off the partnership, GM Chairman & CEO Mary Barra and senior female executives hosted a group of girls at GM headquarters for a day of events focused on connectivity, electrification, automation and the future of mobility.

*When you look at the major areas being disrupted in the auto industry, it's connectivity, it's how the vehicle is propelled with electrification, it's the whole aspect of sharing, and it's autonomous. Every single one of those is requiring more software engineers, more information technology people who understand how to code.*

GM Chairman & CEO Mary Barra

“From a General Motors perspective, we believe diversity is very important to our business strategy. We want to have a diverse workforce that mirrors our customer base. Diversity of thought is crucial to business success,” explains Mary Barra. “We also are a tech company. When we look at the skills that we need going forward, strong technology backgrounds are key for success as well. When we look at students who are pursuing STEM-related degrees, there is a gender gap. We want to work to effectively address that by working with Girls Who Code.”

GM is working to change that. Research shows that programs designed specifically to spark and maintain girls’ interest from middle school into the workforce could triple the number of women in the computing workforce in the next 10 years. This is the thinking behind our recent decision to partner with Girls Who Code (GWC), a national nonprofit aiming to close the gender gap in technology. We provided a \$250,000 grant to help GWC expand its free after-school programs and further its mission of promoting computer science education and encouraging

Women are an untapped resource in many industries. Targeting girls during the middle and high school years, before they lose interest or are discouraged from pursuing science, is key. Programs like Girls Who Code benefit GM, too. As GM becomes a tech company, we’re increasingly competing for the best and brightest workers with software engineering skills. We can strengthen and diversify our pipeline of technology-proficient talent by encouraging girls to explore the field.



## SUPPORT STEM EDUCATION

Given the strategic importance of STEM education to the long-term sustainability of our business, GM and our employees are involved in hundreds of STEM education initiatives around the world annually. This involvement ranges from monetary support for activities such as curriculum development, academic competitions, scholarships and internships to hands-on volunteer activities by GM employees, such as serving as mentors. Some of our most significant STEM support includes:

### **First Robotics**

FIRST inspires young people to be science and technology leaders by engaging them in exciting K-12, mentor-based robotics programs. We are a founding member of this international organization and engage our employees through mentor/coach and volunteer positions. These programs help us reach elementary through high school students by sharing real-world application of STEM skills in a fun, challenging and intentional way.

### **Partners for the Advancement of Collaborative Engineering (PACE) Education**

PACE addresses education gaps among recent graduates by bringing advanced computer-aided design and engineering tools into universities around the globe. Since the mid-1990s when we were a founding partner, GM has joined with 25 other leading high-tech companies to bring PACE to 65 academic institutions in 12 countries. This partnership is helping to shape and attract top talent for the automotive design, engineering and manufacturing teams of the future. To date, we have hired more than 1,300 graduates from PACE universities around the world.

### **Society of Automotive Engineers (SAE) International**

GM and SAE have partnered to launch the AutoDrive Challenge, a three-year autonomous vehicle competition that requires students to develop and demonstrate a fully autonomous passenger vehicle. Our support includes providing a Chevrolet Bolt EV that competing schools use as the platform for their autonomous vehicle solutions. The AutoDrive Challenge also provides us with a connection to innovative universities across North America, so that we can recruit top-tier talent.

### **A World in Motion (AWIM)**

This teacher-administered, industry volunteer-assisted program brings STEM education to life in K-8 classrooms. More than 1,700 GM volunteers work in 967 classrooms across eight states, positively impacting approximately 23,000 students. Volunteer projects include serving as classroom mentors and role models, coaching teams in AWIM competitions, providing tours of GM facilities, assisting with instruction and even producing videos that explain concepts such as mass and momentum.

### **Project Lead the Way**

The nation's leading nonprofit provider of STEM curricula for middle and high schools throughout the United States brings together the application of math and science principles in a real-world context. GM support includes a nearly \$1 million, three-year grant for educator training.

*Kids participate at the Family Connection – STEM Activity stations sponsored in part by GM at the Center for Automotive Research Management Briefing Seminars in Traverse City, Michigan.*





## PROMOTE VEHICLE & ROAD SAFETY

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.

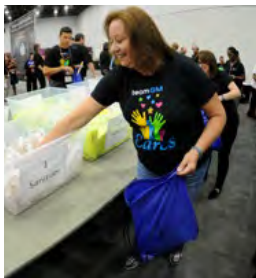
Safe Kids, a GM sponsored program, is celebrating 20 years of the Buckle Up Program, one of their most important community safety outreach initiatives. In total, GM, the GM Foundation, Chevrolet and OnStar have provided nearly \$70 million to Safe Kids to help educate parents and caregivers on the importance of passenger safety. Over the course of this partnership, the Safe Kids Buckle Up program has reached more than 28 million families. With the support of the GM Foundation, Safe Kids-certified child passenger safety technicians have inspected more than 2 million child safety seats for proper fit and installation, and more than 700,000 car seats have been donated to families in need. For those families who cannot attend an inspection, GM provided 137 Chevrolet vans that traveled

more than 20 million miles to host checkup events in rural and remote communities. That's the equivalent of driving around the world 118 times.

This partnership has been extended to China, our largest automotive market, with the launch of Safe Kids Safe Ride. 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. GM Korea also partners with the Safe Kids organization through a campaign to prevent childhood injuries that may occur as a result of vehicle blind spots.



*Safe Kids, a GM sponsored program, is celebrating 20 years of the Buckle Up Program, one of their major road safety outreach initiatives*



*In Detroit, GM employees stuffed 5,000 backpacks, which were distributed to the residents of the Cody Rouge community.*

## STRENGTHEN NEIGHBORHOODS & EMPOWER RESIDENTS

Though the problems that disadvantaged communities and developing economies face can seem daunting, part of the solution sits in our own hands: By engaging at a micro level, in one neighborhood or community, we are able to make a real and long-lasting difference.

This strategy was demonstrated in 2016, when nearly 2,500 GM employees joined together in

our ambitious "Grow Cody Rouge" project in our hometown of Detroit. We spent eight months working with residents of this resource-constrained – but not talent- or passion-constrained – neighborhood to put together our weeklong volunteer effort, listening and responding to the needs of the Cody community and then executing their well-organized plan.



Together with community members and our GM Student Corps volunteers, our work included:

- Landscaping the backyards of more than 56 elderly civic leaders in the Cody community;
- Cleaning and boarding up 378 vacant homes;
- Clearing empty lots;
- Sprucing up 37 streets; and
- Making major upgrades to the playing fields at a neighborhood park, including a new soccer field.

In total, our week in the Cody Rouge neighborhood totaled more than 16,000 volunteer hours across just over 100 different projects.

This complemented the work of the GM Student Corps team, whose summer-long project was renovating a high school auditorium. This was a huge task that required students to meticulously repair, hand-sand and stain the battered, timeworn stage and every wooden seat.

Our GM Student Corps program provides high school students with paid internships and the opportunity to give back to their neighborhoods through community improvement projects they plan and complete. The program unites people of all ages and backgrounds toward a common goal of improving underserved and deeply distressed communities while helping students develop valuable skills. In 2016, GM retiree and employee volunteers, along with college interns, mentored 130 students.

*(Left) GM employees and Student Corp volunteers boarding up vacant homes in Detroit.*



*(Right) GM employees packed food boxes at Food Bank of Eastern Michigan in Flint, Michigan.*



*The work that we do here, it's not just the physical changes, it's how people will feel here. The students can come back and have pride in their school.*

*Javier Cartegena-Rodriguez, 16, GM Student Corps participant*



### A Week of Caring

In 2016, we marked our fifth annual teamGM Cares Week, when more than 4,000 of our employees donated their time and talent to more than 200 community service projects in 11 U.S. states. Our employees devoted themselves to a number of projects this year, including packing boxes at food banks, relocating high school scholars to safer housing and cleaning underserved neighborhoods and community parks.



## SUPPORT BIODIVERSITY AT GM SITES

We use GM lands as resources and for partnerships to help address pressing global biodiversity issues. Our work reduces GM's environmental footprint while increasing our positive handprint in the communities where we operate. Goals include achieving and improving upon Wildlife Habitat Council certification at every GM site; aligning GM's Wildlife Habitat Council programs with regional habitat plans, country conservation goals and other relevant issues of concern; and working beyond minimum certification standards.

We work to restore, protect and promote biodiversity, focusing on areas providing tangible business value, such as green infrastructure and landscaping (reduced maintenance, native plantings, stormwater management, tree canopies); wetlands (stormwater management); supply chain (education, responsible sourcing); pollinators and safe migration (food security, employee engagement); and forestation (heat island effect, carbon reduction), to name a few. Currently, 63 of 87 sites are Wildlife Habitat Council (WHC) certified, 49 of which are manufacturing sites and 14 nonmanufacturing sites.

In 2016, we earned the following national awards: the WHC's Corporate Conservation Leadership Award, Employee Engagement Award and the Formal Learning Project Award for the habitat at our Langley (Vancouver) Parts Distribution Centre; the 2016 North American Bluebird Society Award for Bluebird Conservation; the U.S. Business Council for Sustainable Development and the Pollinator Partnership's 2016 Monarch Sustainer of the Year Award; the 2016 Wings Across the Americas award for "Green" Bat Houses for National Forests: Connecting Bats, People & Public Lands.

*Sixty-three GM sites have achieved Wildlife Habitat Council Conservation Certification*





# GOVERNANCE

Aspiration: Full Transparency & Integrity – Always



# What We Aspire To Do

## **FULL TRANSPARENCY & INTEGRITY – ALWAYS**

For General Motors, the Board of Directors’ mission is to represent the owners’ interest in the long-term health and the overall success of the business and its financial strength. The Board and management team are singularly focused on the long-term interest of all of our shareholders. We have a highly engaged Board with a diverse range of expertise that drives effective oversight of our strategic priorities and operations. We encourage healthy constructive debate and we regularly challenge ourselves to make the tough decisions that are essential in times of significant change and required to advance transformation.

OUR MANAGEMENT APPROACH TO GOVERNANCE.....	<b>153</b>
HOW WE MEASURE PROGRESS.....	<b>155</b>





# Our Management Approach to Governance

## Governing Responsibly and With Integrity

GM is governed by a Board of Directors and committees of the Board that meet throughout the year. The Board is elected by shareholders to oversee and provide guidance on GM's business and affairs and is the ultimate decision-making body of the company, except for those matters specifically reserved to shareholders. It is highly engaged in developing GM's strategic plan and overseeing execution of that plan. The Board has the overall responsibility for risk oversight, with a focus on the most significant risks facing the Company. Effective risk management is the responsibility of the CEO and other members of GM's Executive Leadership Team. Our Board implements its risk oversight function both as a whole and through delegation to Board Committees, particularly the Risk Committee. Each of the Board Committees is responsible for oversight of risk management practices for categories of risks relevant to its functions. The

Board believes that its structure for risk oversight provides for open communication between management and the Board and its Committee. The Board is committed to sound corporate governance structures and policies that enable GM to operate its business responsibly, with integrity, and to position GM to compete more effectively, sustain its success and build long-term shareholder value.

The Board is committed to overseeing the Company's integration of Environment, Social and Governance (ESG) principles throughout the enterprise. This oversight includes an annual sustainability review by the Board and periodic reviews of ESG issues by the Board's Governance and Corporate Responsibility Committee. The Board is committed to elevating GM's leadership profile and reputation among investors, policymakers and others on ESG issues and practices and believes GM has a unique opportunity to address these important issues.

### Key Takeaways

- » The Board is committed to integrating GM's Environment, Social and Governance (ESG) principles throughout the enterprise.
- » Beginning in 2017, GM's Short-Term Incentive Plan links compensation for certain positions to sustainability measures.
- » The Board's new shareholder engagement strategy more directly evaluates key initiatives from different perspectives and viewpoints.

### Recent Actions

Beginning in 2017, the Board has modified GM's Short-Term Incentive Plan to incorporate an individual performance component, which, for certain positions, will include sustainability measures. Linking total compensation to the achievement of these individual measures will increase focus on efficiency and performance across the business for our sustainability initiatives.



In 2016, the Board adopted a shareholder engagement strategy. Following the 2016 Annual Meeting of Shareholders, members of the Board met with 11 of our largest shareholders, representing approximately 25 percent of our outstanding common stock. In addition, management met with over 80 shareholders throughout 2016 on various matters. The constructive insights, experiences and ideas exchanged during these engagements allow the Board and management to further evaluate and assess key initiatives from different perspectives and viewpoints. Also during 2016, GM became a signatory to the Commonsense Principles of Corporate Governance, which can be found at [www.governanceprinciples.org](http://www.governanceprinciples.org).

### **Board Structure**

The Board is comprised of 11 members, all but two of whom – Chairman & CEO Mary Barra and former UAW Vice President Joe Ashton – are independent, as defined by the Board’s Corporate Governance Guidelines, which reflect the independence standards of the New York Stock Exchange and the U.S. Securities and Exchange Commission.

The Board has the flexibility to decide its optimal leadership structure, specifically when the positions of Chairman and CEO should be combined or separated. This allows the Board to choose the most appropriate leadership structure for the company to best serve the interests of our shareholders at any particular time. Currently, the Board is led by our Chairman & CEO, Mary Barra, whose role as Board Chairman is complemented by that of our Independent Lead Director, Tim Solso. The Board believes that Ms. Barra’s in-depth knowledge of GM’s business and understanding of day-to-day operations brings focused leadership to our Board and reinforces accountability for the company’s performance. Our Corporate Governance Guidelines, available on our website (see below for link), specify the duties of the Independent Lead Director.

The Board has adopted governance structures and policies that it believes promote Board independence and the interests of shareholders. These structures and policies include, among others:

- A declassified Board
- A majority vote requirement in uncontested elections of directors
- Annual election of the Chairman of the Board by the independent directors
- Annual election of the Independent Lead Director by the independent directors
- A supermajority of independent directors
- Executive sessions at each Board meeting without management present
- Key Board committees composed exclusively of independent directors
- Directors’ unrestricted access to management and independent advisors
- Feedback from shareholders through direct engagement
- Proxy access for shareholders
- Right of shareholders to call for special meetings of shareholders

### **Board Committees**

The Board has the following standing committees:

- Audit
- Executive
- Executive Compensation
- Finance
- Governance and Corporate Responsibility
- Risk

## **Governance and Corporate Responsibility Committee**

Members:

- » Patricia F. Russo (Chair)
- » Joseph Jimenez
- » Carol M. Stephenson



The Audit, Executive Compensation, and Governance and Corporate Responsibility Committees are composed entirely of independent directors. Each committee has a written charter setting forth its purpose, authority and duties. The committees enhance the Board's oversight of areas that are critical to GM's corporate responsibility and sustainability efforts, including: transparent and reliable financial reporting, risk identification and mitigation, ethics, vehicle and workplace safety, pay-for-performance, diversity, Board and management succession planning, shareholder proposals and nominations, corporate responsibility and political spending issues.

You can learn more about the Board, its committees and GM's corporate governance structures and policies on our website at [gm.com/investors/corporate-governance](http://gm.com/investors/corporate-governance).

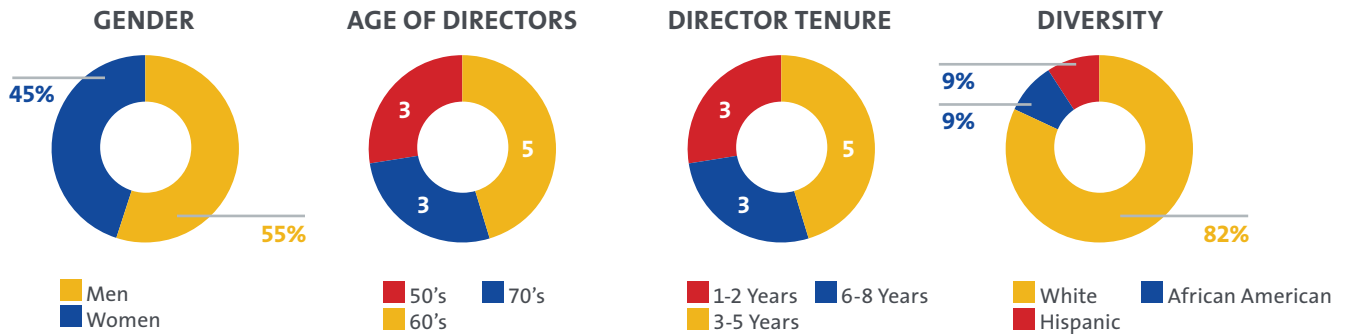
### Corporate Policies

GM has made significant progress on and makes the following corporate policies publicly available as part of our online 2016 Sustainability Report:

- » [Code of Conduct](#)
- » [Integrity Policy](#)
- » [Supplier Code of Conduct](#)
- » [Conflict Minerals Policy](#)
- » [Global Environmental Policy](#)
- » [Human Rights Policy](#)
- » [Political Contributions and Expenditures Policy](#)
- » [Non-retaliation Policy](#)



## Board Composition



**64 Years**  
Average Age

**4 Years**  
Average Tenure

**8**  
2016 Board Meetings

**29**  
2016 Committee Meetings

**94%**  
2016 Board Attendance

# GRI Content Index

## GENERAL DISCLOSURES

Disclosure Number	Description	Reference/Response
<b>Organizational Profile</b>		
102-1	Name of the organization	Corporate Profile; 10-K page 1
102-2	Activities, brands, products and services	Corporate Profile
102-3	Location of headquarters	Detroit, Michigan
102-4	Location of operations	Corporate Profile; 10-K pages 2, 16
102-5	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.
102-6	Markets served	Corporate Profile; 10-K pages 2-3
102-7	Scale of the organization	Corporate Profile; 10-K page 46
102-8	Information on employees and other workers	Talent – Measure The majority of our workforce is comprised of GM employees. There are no significant variations in employment numbers.
102-9	Supply chain	Supply Chain – Manage
102-10	Significant changes to the organization and its supply chain	There have been no significant changes during the reporting period.
102-11	Precautionary principle or approach	GM does not follow the precautionary approach, but has a comprehensive risk management plan in place.
102-12	External initiatives	<ul style="list-style-type: none"> <li>• CDP</li> <li>• Business for Innovation Climate &amp; Energy Policy (BICEP) Coalition</li> <li>• United Nations Global Compact</li> <li>• U.S. Business for Climate Action</li> </ul>
102-13	Membership of associations	We work with automotive industry groups in many countries in which we operate, including, but not limited to Alliance of Automobile Manufacturers' Association (AAM), and the Federal Chamber of Automotive Industries (FAI) 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 & Hydrogen Energy Association.
<b>Strategy</b>		
102-14	Statement from senior decision-maker	CEO Message
<b>Ethics and integrity</b>		
102-16	Values, principles, standards and norms of behavior	What We Aspire To Do; Ethics
<b>Governance</b>		
102-18	Governance structure	Governance
<b>Stakeholder engagement</b>		
102-40	List of stakeholder groups	Stakeholder Engagement
102-41	Collective bargaining agreements	Talent – Act
102-42	Identifying and selecting stakeholders	Stakeholder Engagement
102-43	Approach to stakeholder engagement	Stakeholder Engagement
102-44	Key topics and concerns raised	Stakeholder Engagement

# GRI Content Index

## GENERAL DISCLOSURES

Disclosure Number	Description	Reference/Response
<b>Reporting practice</b>		
102-45	Entities included in the consolidated financial statements	10-K page 1
102-46	Defining report content and topic Boundaries	Reporting Practices
102-47	List of material topics	Reporting Practices
102-48	Restatements of information	Any restatements, and reasons for such, are footnoted as part of the data presentation within the body of the report.
102-49	Changes in reporting	Changes have been noted in footnotes where applicable.
102-50	Reporting period	Reporting Practices
102-51	Date of most recent report	Reporting Practices
102-52	Reporting cycle	Reporting Practices
102-53	Contact point for questions regarding the report	<a href="mailto:gm.sustainability@gm.com">gm.sustainability@gm.com</a>
102-54	Claims of reporting in accordance with the GRI Standards	Reporting Practices
102-55	GRI content index	Reporting Practices
102-56	External assurance	Reporting Practices

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response
<b>GRI 201: Economic Performance 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	CEO Message; Vehicle Efficiency & Emissions; 10-K page 18
103-2	The management approach and its components	CEO Message; Vehicle Efficiency & Emissions; 10-K page 18
103-3	Evaluation of the management approach	CEO Message; Vehicle Efficiency & Emissions; 10-K page 18
201-1	Direct economic value generated and distributed	10-K page 18
201-2	Financial implications and other risks and opportunities due to climate change	Vehicle Efficiency & Emissions – Manage; Operations – Act; 10-K pages 6-8
201-3	Defined benefit plan obligations and other retirement plans	10-K pages 67-68
201-4	Financial assistance received from government	GM did not receive any significant financial assistance from any government this year.
<b>GRI 204: Procurement Practices 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Supply Chain
103-2	The management approach and its components	Supply Chain
103-3	Evaluation of the management approach	Supply Chain
204-1	Proportion of spending on local suppliers	Supply Chain – Measure The term "local suppliers" refers to suppliers operating in the country where a GM plant is located.

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response																																	
<b>GRI 205: Anti-Corruption</b>																																			
<b>GRI 103: Management Approach 2016</b>																																			
203-1	Explanation of the material topic and its Boundary	Ethics																																	
103-2	The management approach and its components	Ethics																																	
103-3	Evaluation of the management approach	Ethics																																	
205-3	Confirmed incidents of corruption and actions taken	Allegations of corruption/bribery are formally investigated to conclusion. The investigation results are provided to pertinent stakeholders for remediation and corrective action.																																	
<b>GRI 302: Energy 2016</b>																																			
<b>GRI 103: Management Approach 2016</b>																																			
103-1	Explanation of the material topic and its Boundary	Vehicle Efficiency & Emissions; Operations																																	
103-2	The management approach and its components	Vehicle Efficiency & Emissions; Operations																																	
103-3	Evaluation of the management approach	Vehicle Efficiency & Emissions; Operations																																	
302-1	Energy consumption within the organization	<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>2014: 37,356,179 2015: 35,297,119 2016: 34,444,439</td> <td>Includes all facility fuel for process and facility heat. Does not include landfill gas</td> </tr> <tr> <td>Total fuel consumption from renewable sources</td> <td>2014: 927,092 2015: 1,187,937 2016: 2,981,123</td> <td>Includes landfill gas use and renewable electricity generated from solar and wind or purchased under a Purchase Power Agreement</td> </tr> <tr> <td>Total electricity consumption</td> <td>2014: 33,092,273 2015: 32,086,922 2016: 33,364,403</td> <td>Nonrenewable electricity</td> </tr> <tr> <td>Heating consumption</td> <td>–</td> <td>Included in total fuel consumption</td> </tr> <tr> <td>Cooling consumption</td> <td>–</td> <td>Included in electricity</td> </tr> <tr> <td>Steam consumption</td> <td>2014: 4,532,758 2015: 4,663,710 2016: 4,105,376</td> <td>Purchased steam and delivered heat including purchased steam from renewable sources</td> </tr> <tr> <td>Electricity sold</td> <td>–</td> <td></td> </tr> <tr> <td>Heating sold</td> <td>–</td> <td></td> </tr> <tr> <td>Cooling sold</td> <td>–</td> <td></td> </tr> <tr> <td>Total energy consumption</td> <td>2014: 75,908,302 2015: 73,235,689 2016: 74,895,341</td> <td></td> </tr> </tbody> </table>	Energy Consumption	GJ	Comment	Total fuel consumption from nonrenewable sources	2014: 37,356,179 2015: 35,297,119 2016: 34,444,439	Includes all facility fuel for process and facility heat. Does not include landfill gas	Total fuel consumption from renewable sources	2014: 927,092 2015: 1,187,937 2016: 2,981,123	Includes landfill gas use and renewable electricity generated from solar and wind or purchased under a Purchase Power Agreement	Total electricity consumption	2014: 33,092,273 2015: 32,086,922 2016: 33,364,403	Nonrenewable electricity	Heating consumption	–	Included in total fuel consumption	Cooling consumption	–	Included in electricity	Steam consumption	2014: 4,532,758 2015: 4,663,710 2016: 4,105,376	Purchased steam and delivered heat including purchased steam from renewable sources	Electricity sold	–		Heating sold	–		Cooling sold	–		Total energy consumption	2014: 75,908,302 2015: 73,235,689 2016: 74,895,341	
Energy Consumption	GJ	Comment																																	
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Electricity sold	–																																		
Heating sold	–																																		
Cooling sold	–																																		
Total energy consumption	2014: 75,908,302 2015: 73,235,689 2016: 74,895,341																																		
302-3	Energy intensity	<p>Operations – Measure 2.49 MWh per vehicle produced.</p> <p>Energy intensity was calculated based on the production of 10,133,090 vehicles and included all energy within the organization, both manufacturing and nonmanufacturing.</p>																																	
302-4	Reduction of energy consumption	<p>2,526,364 GJ</p> <p>All types of facility energy were included in the reductions. The basis for calculation is absolute reduction from activities in 2016. Standards, methodologies and assumptions used were good engineering practices.</p>																																	
302-5	Reductions in energy requirements of products and services	Vehicle Efficiency & Emissions; CDP Report																																	

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response														
<b>GRI 303: Water 2016</b>																
<b>GRI 103: Management Approach 2016</b>																
103-1	Explanation of the material topic and its Boundary	Operations														
103-2	The management approach and its components	Operations														
103-3	Evaluation of the management approach	Operations														
303-1	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>2,901,697</td> </tr> <tr> <td>Groundwater</td> <td>4,089,339</td> </tr> <tr> <td>Rainwater</td> <td>5,011</td> </tr> <tr> <td>Wastewater</td> <td>–</td> </tr> <tr> <td>Municipal water supplies</td> <td>35,370,819</td> </tr> <tr> <td>Total</td> <td>42,366,866 M3</td> </tr> </tbody> </table>	Withdrawal Source	(M3)	Surface water	2,901,697	Groundwater	4,089,339	Rainwater	5,011	Wastewater	–	Municipal water supplies	35,370,819	Total	42,366,866 M3
Withdrawal Source	(M3)															
Surface water	2,901,697															
Groundwater	4,089,339															
Rainwater	5,011															
Wastewater	–															
Municipal water supplies	35,370,819															
Total	42,366,866 M3															
303-2	Water sources significantly affected by withdrawal of water	Zero														
303-3	Water recycled and reused	Reporting is based on engineering estimates and matters. <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>18,780,532</td> </tr> <tr> <td>Percentage of total water withdrawal</td> <td>44%</td> </tr> </tbody> </table>	Metric	(M3)	Total volume of water recycled and reused	18,780,532	Percentage of total water withdrawal	44%								
Metric	(M3)															
Total volume of water recycled and reused	18,780,532															
Percentage of total water withdrawal	44%															
<b>GRI 305: Emissions 2016</b>																
<b>GRI 103: Management Approach 2016</b>																
103-1	Explanation of the material topic and its Boundary	Vehicle Efficiency & Emissions; Operations														
103-2	The management approach and its components	Vehicle Efficiency & Emissions; Operations														
103-3	Evaluation of the management approach	Vehicle Efficiency & Emissions; Operations														
305-1	Direct (Scope 1) GHG emissions	<table border="1"> <thead> <tr> <th></th> <th>Metric tons CO2</th> </tr> </thead> <tbody> <tr> <td>Gross direct GHG emissions</td> <td>2,003,265</td> </tr> </tbody> </table> <p>Baseline year in 2010, which was the first full year of operation as the new General Motors Corporation, and includes all 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	2,003,265										
	Metric tons CO2															
Gross direct GHG emissions	2,003,265															
305-2	Energy indirect (Scope 2) GHG emissions	<p>Baseline year in 2010, which was the first full year of operation as the new General Motors Corporation, and includes all 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> <table border="1"> <thead> <tr> <th></th> <th>Metric tons CO2</th> </tr> </thead> <tbody> <tr> <td>Gross indirect GHG emissions</td> <td>5,799,436</td> </tr> </tbody> </table>		Metric tons CO2	Gross indirect GHG emissions	5,799,436										
	Metric tons CO2															
Gross indirect GHG emissions	5,799,436															
305-3	Other indirect (Scope 3) GHG emissions	<table border="1"> <thead> <tr> <th></th> <th>Metric tons CO2</th> </tr> </thead> <tbody> <tr> <td>Gross other indirect GHG emissions</td> <td>320,911,918</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	320,911,918										
	Metric tons CO2															
Gross other indirect GHG emissions	320,911,918															

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response						
305-4	GHG emissions intensity	0.77 metric tons CO <sub>2</sub> e/vehicle Calculated on the basis of 10,133,090 production vehicles; includes Scope 1 and 2 emissions and all GHG gases.						
305-5	Reduction of GHG emissions	220,708 metric tons CO <sub>2</sub> Calculated using GHG Protocol on the basis of vehicle emission reduction targets since 2011; includes all GHG gases in Scope 3 emissions.						
305-6	Emissions of ozone-depleting substances (ODS)	0.6 metric tons Calculation includes R-402A, R-22, R-141B, R-113, R-123, R-502, R-401A, R-12, R-409A. Figures represent actual emissions; if actual emission data was not available, an emission factor of 8.5 percent of the total equipment charge by refrigerant was used to estimate emissions. The 8.5 percent rate is based on the median range of leakage rates estimates provided by the IPCC Good Practice Guidelines and Uncertainty Management in National Greenhouse Gas Inventories (2000).						
305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ) and other significant air emissions	<table border="1"> <thead> <tr> <th>VOC (k-tons)</th> <th>NO<sub>x</sub> (metric tons)</th> <th>SO<sub>x</sub> (metric tons)</th> </tr> </thead> <tbody> <tr> <td>28.1</td> <td>1,590</td> <td>32</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, such as maintenance painting, sealers, etc. These data include data from some GM JVs.</p>	VOC (k-tons)	NO <sub>x</sub> (metric tons)	SO <sub>x</sub> (metric tons)	28.1	1,590	32
VOC (k-tons)	NO <sub>x</sub> (metric tons)	SO <sub>x</sub> (metric tons)						
28.1	1,590	32						

## GRI 306: Effluents and Waste 2016

### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	Operations								
103-2	The management approach and its components	Operations								
103-3	Evaluation of the management approach	Operations								
306-1	Water discharge by quality and destination	<table border="1"> <thead> <tr> <th>Quality of the water including treatment method</th> <th>(Reported in Million m<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td>Direct discharge (to surface water body)</td> <td>16.3</td> </tr> <tr> <td>Indirect discharge (to treatment facility)</td> <td>27.4</td> </tr> <tr> <td>Discharge to groundwater</td> <td>0.2</td> </tr> </tbody> </table> <p>Typically, effluent is treated via biological or physical/chemical methods, and in some instances by both. Water quality data is based on analytical testing.</p>	Quality of the water including treatment method	(Reported in Million m <sup>3</sup> )	Direct discharge (to surface water body)	16.3	Indirect discharge (to treatment facility)	27.4	Discharge to groundwater	0.2
Quality of the water including treatment method	(Reported in Million m <sup>3</sup> )									
Direct discharge (to surface water body)	16.3									
Indirect discharge (to treatment facility)	27.4									
Discharge to groundwater	0.2									



# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response																				
306-2	Waste by type and disposal method	<table border="1"> <thead> <tr> <th>Disposal Method</th> <th>(in k-tons to the nearest whole number)</th> </tr> </thead> <tbody> <tr> <td>Reuse</td> <td>467</td> </tr> <tr> <td>Recycling</td> <td>2,019</td> </tr> <tr> <td>Composting</td> <td>5</td> </tr> <tr> <td>Recovery, including energy recovery</td> <td>72</td> </tr> <tr> <td>Incinerating (mass burn)</td> <td>22</td> </tr> <tr> <td>Deep well injection</td> <td>–</td> </tr> <tr> <td>Landfill</td> <td>319</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>11</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-tons to the nearest whole number)	Reuse	467	Recycling	2,019	Composting	5	Recovery, including energy recovery	72	Incinerating (mass burn)	22	Deep well injection	–	Landfill	319	On-site storage	Minimal	Other (includes microwaving, enclaves, plasma processing and other treatments)	11
Disposal Method	(in k-tons to the nearest whole number)																					
Reuse	467																					
Recycling	2,019																					
Composting	5																					
Recovery, including energy recovery	72																					
Incinerating (mass burn)	22																					
Deep well injection	–																					
Landfill	319																					
On-site storage	Minimal																					
Other (includes microwaving, enclaves, plasma processing and other treatments)	11																					

### GRI 308: Supplier Environmental Assessment 2016

GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its Boundary	Supply Chain
103-2	The management approach and its components	Supply Chain
103-3	Evaluation of the management approach	Supply Chain
308-1	New suppliers that were screened using environmental criteria	100 percent

### GRI 401: Employment 2016

GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its Boundary	Talent
103-2	The management approach and its components	Talent
103-3	Evaluation of the management approach	Talent
401-1	New employee hires and employee turnover	Total: 4.9 Voluntary: 4.2

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response																												
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<p>The table below summarizes differences in GM benefits between full-time and part-time employees in areas such as health care, retirement savings, life insurance, disability coverage and wellness programs in select programs.</p> <table border="1"> <tbody> <tr> <td>U.S.</td> <td>None</td> </tr> <tr> <td>Canada</td> <td>Health Care Spending Account/Wellness contribution for part-time employee is 50% of that of a full-time employee</td> </tr> <tr> <td>South America</td> <td>None</td> </tr> <tr> <td>Mexico</td> <td>None</td> </tr> <tr> <td>China</td> <td>Life Insurance (death in service), Accidental Death and Dismemberment (AD&amp;D), Termination</td> </tr> <tr> <td>Japan</td> <td>Life Insurance (death in service), Accidental Death and Dismemberment, Long-term Disability, Termination</td> </tr> <tr> <td>South Korea</td> <td>Life Insurance (death in service), Accidental Death and Dismemberment, Long-Term Disability, Short-Term Disability, Termination</td> </tr> <tr> <td>Egypt</td> <td>Medical</td> </tr> <tr> <td>South Africa</td> <td>Termination Indemnity</td> </tr> <tr> <td>Vietnam</td> <td>Termination Indemnity</td> </tr> <tr> <td>Austria</td> <td>Short-term Disability</td> </tr> <tr> <td>Greece</td> <td>Termination Indemnity, Long-Term Disability</td> </tr> <tr> <td>Norway</td> <td>Life Insurance, Company Doctor Visit</td> </tr> <tr> <td>Finland</td> <td>Involuntary Termination Indemnity</td> </tr> </tbody> </table>	U.S.	None	Canada	Health Care Spending Account/Wellness contribution for part-time employee is 50% of that of a full-time employee	South America	None	Mexico	None	China	Life Insurance (death in service), Accidental Death and Dismemberment (AD&D), Termination	Japan	Life Insurance (death in service), Accidental Death and Dismemberment, Long-term Disability, Termination	South Korea	Life Insurance (death in service), Accidental Death and Dismemberment, Long-Term Disability, Short-Term Disability, Termination	Egypt	Medical	South Africa	Termination Indemnity	Vietnam	Termination Indemnity	Austria	Short-term Disability	Greece	Termination Indemnity, Long-Term Disability	Norway	Life Insurance, Company Doctor Visit	Finland	Involuntary Termination Indemnity
U.S.	None																													
Canada	Health Care Spending Account/Wellness contribution for part-time employee is 50% of that of a full-time employee																													
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Austria	Short-term Disability																													
Greece	Termination Indemnity, Long-Term Disability																													
Norway	Life Insurance, Company Doctor Visit																													
Finland	Involuntary Termination Indemnity																													

### GRI 402: Labor/Management Relations 2016

#### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	Talent
103-2	The management approach and its components	Talent
103-3	Evaluation of the management approach	Talent
402-1	Minimum notice periods regarding operational changes	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.

### GRI 403: Occupational Health and Safety 2016

#### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	Talent
103-2	The management approach and its components	Talent
103-3	Evaluation of the management approach	Talent
403-1	Workers' representation in formal joint management-worker health and safety committees	100 percent, Talent

### GRI 404: Training and Education 2016

#### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	Talent
103-2	The management approach and its components	Talent
103-3	Evaluation of the management approach	Talent
404-2	Programs for upgrading employee skills and transition assistance programs	Talent – Act

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response																																				
<b>GRI 405: Diversity and Equal Opportunity 2016</b>																																						
<b>GRI 103: Management Approach 2016</b>																																						
103-1	Explanation of the material topic and its Boundary	Talent																																				
103-2	The management approach and its components	Talent																																				
103-3	Evaluation of the management approach	Talent																																				
405-1	Diversity of governance bodies and employees	Talent – Measure; Governance – Measure Board makeup as of June 1, 2017																																				
		<table border="1"> <thead> <tr> <th colspan="4">Board of Directors – Gender</th> </tr> <tr> <th>Male</th> <th colspan="3">Female</th> </tr> </thead> <tbody> <tr> <td>6</td> <td colspan="3">5</td> </tr> <tr> <th colspan="4">Board of Directors – Age Group</th> </tr> <tr> <th>Under 30 Years</th> <th>30-50 Years</th> <th colspan="2">50+ Years</th> </tr> <tr> <td>0</td> <td>0</td> <td colspan="2">11</td> </tr> <tr> <th colspan="4">Board of Directors – Diversity</th> </tr> <tr> <th>White</th> <th>African-American</th> <th>Hispanic</th> <th>Other</th> </tr> <tr> <td>9</td> <td>1</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Board of Directors – Gender				Male	Female			6	5			Board of Directors – Age Group				Under 30 Years	30-50 Years	50+ Years		0	0	11		Board of Directors – Diversity				White	African-American	Hispanic	Other	9	1	1	0
Board of Directors – Gender																																						
Male	Female																																					
6	5																																					
Board of Directors – Age Group																																						
Under 30 Years	30-50 Years	50+ Years																																				
0	0	11																																				
Board of Directors – Diversity																																						
White	African-American	Hispanic	Other																																			
9	1	1	0																																			
405-2	Ratio of basic salary and remuneration of women to men	Salary information is based on annual salaries for the global salaried workforce. Executive Level (base salary only): Female to Male ratio is 98.8 percent. Management Level (base salary only): Female to Male ratio is 100.5 percent. Non-Management Level (base salary only): Female to Male ratio is 97.1 percent. Average remuneration: Female to Male ratio is 100.5 percent.																																				
<b>GRI 407: Freedom of Association and Collective Bargaining 2016</b>																																						
<b>GRI 103: Management Approach 2016</b>																																						
103-1	Explanation of the material topic and its Boundary	Talent; Supply Chain																																				
103-2	The management approach and its components	Talent; Supply Chain																																				
103-3	Evaluation of the management approach	Talent; Supply Chain																																				
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	We have not identified any GM operations or Tier I suppliers for risks of this nature.																																				
<b>GRI 408: Child Labor 2016</b>																																						
<b>GRI 103: Management Approach 2016</b>																																						
103-1	Explanation of the material topic and its Boundary	Supply Chain																																				
103-2	The management approach and its components	Supply Chain																																				
103-3	Evaluation of the management approach	Supply Chain																																				
408-1	Operations and suppliers at significant risk for incidents of child labor	We have not identified any GM operations or Tier I suppliers for risks of this nature.																																				
<b>GRI 409: Forced or Compulsory Labor 2016</b>																																						
<b>GRI 103: Management Approach 2016</b>																																						
103-1	Explanation of the material topic and its Boundary	Supply Chain																																				
103-2	The management approach and its components	Supply Chain																																				
103-3	Evaluation of the management approach	Supply Chain																																				
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	We have not identified any GM operations or Tier I suppliers for risks of this nature.																																				

# GRI Content Index

## TOPIC-SPECIFIC STANDARDS

Disclosure Number	Description	Reference/Response
<b>GRI 410: Security Practices 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Ethics
103-2	The management approach and its components	Ethics
103-3	Evaluation of the management approach	Ethics
410-1	Security personnel trained in human rights policies or procedures	100 percent of security personnel have completed Code of Conduct training, which includes human rights policies and procedures.
<b>GRI 414: Supplier Social Assessment 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Supply Chain
103-2	The management approach and its components	Supply Chain
103-3	Evaluation of the management approach	Supply Chain
414-1	New suppliers that were screened using social criteria	100 percent of Tier I suppliers have expectations for social criteria outlined in our purchase contract terms and conditions. Supply Chain – Measure
414-2	Negative social impacts in the supply chain and actions taken	We have not identified any Tier I suppliers for risks of this nature.
<b>GRI 416: Customer Health and Safety 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Vehicle Safety; Personal Mobility
103-2	The management approach and its components	Vehicle Safety; Personal Mobility
103-3	Evaluation of the management approach	Vehicle Safety; Personal Mobility
416-1	Assessment of the health and safety impacts of product and service categories	100 percent of our vehicles are assessed for health and safety impacts.
416-2	Incidents of noncompliance concerning the health and safety impacts of products and services	10-K pages 23-24, 73-77
<b>GRI 418: Customer Privacy 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Ethics; Personal Mobility
103-2	The management approach and its components	Ethics; Personal Mobility
103-3	Evaluation of the management approach	Ethics; Personal Mobility
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	GM received no material complaints during 2016.
<b>GRI 419: Socioeconomic Compliance 2016</b>		
<b>GRI 103: Management Approach 2016</b>		
103-1	Explanation of the material topic and its Boundary	Vehicle Efficiency & Emissions; Vehicle Safety; Personal Mobility; Ethics
103-2	The management approach and its components	Vehicle Efficiency & Emissions; Vehicle Safety; Personal Mobility; Ethics
103-3	Evaluation of the management approach	Vehicle Efficiency & Emissions; Vehicle Safety; Personal Mobility; Ethics
419-1	Noncompliance with laws and regulations in the social and economic area	10-K pages 23-24, 73-77

## U.N. SUSTAINABLE DEVELOPMENT GOALS

How our sustainability initiatives intersect the 17 goals outlined in the 2030 agenda for sustainable development.



Creating lasting change by listening to disadvantaged communities and giving back at a micro level.

**Learn More:**  
[Strengthen Neighborhoods and Empower Residents](#)



Supporting the poorest districts and neighborhood in select global communities with a mission of empowering residents.

**Learn More:**  
[Strengthen Neighborhoods & Empower Residents](#)



Saving lives through advanced safety technologies and by encouraging safe driving practices.

**Learn More:**  
[Promote Vehicle & Road Safety](#)  
[Work Together for Safer Roads](#)  
[Innovate Technologies to Address Societal Issues](#)  
[Help Manage Distracted Driving](#)



Investing in STEM education programs, to help the next generation excel in school and compete in the workforce.

**Learn More:**  
[Support STEM Education](#)  
[Empower Girls to Code](#)



Supporting women worldwide by standing up for equal pay and creating opportunities for advancement.

**Learn More:**  
[Pledge to Support Equal Pay for Women](#)  
[Build a Diverse Workplace & Inclusive Culture](#)



Managing and reducing our water usage and risks in our operations and throughout our supply chain.

**Learn More:**  
[Manage Water-Related Risks](#)



Committing to 100 percent renewable energy to meet the electric needs of our operations by 2050.

**Learn More:**  
[Commit to a 100% Renewable Future](#)



Building a workplace where employees feel valued, where their rights are respected, and where they can do meaningful work.

**Learn More:**  
[Strengthen Recruiting Efforts](#)  
[Increase Employee Engagement](#)  
[Maintain Strong Relationships with Our Union Partners](#)  
[Collaborate on Training and Capacity-Building](#)



Transforming transportation through innovations in advanced vehicle and fuel technologies, shared mobility services and autonomous technology.

**Learn More:**  
[Vehicle Efficiency & Emissions – Manage Personal Mobility – Manage Advanced Efficient Fundamentals](#)  
[Commit to Fuel-Cell Technology](#)  
[Champion EV Market Growth](#)  
[Launch Services for the Shared Economy](#)  
[Accelerate the Future of Autonomous Vehicles](#)



Leveling the playing field by embracing fair practices for hiring, promotion and compensation.

**Learn More:**  
[Pledge to Support Equal Pay for Women](#)  
[Build a Diverse Workplace & Inclusive Culture](#)  
[GRI 405-2: Remuneration Data](#)

## UN SUSTAINABLE DEVELOPMENT GOALS



Developing mobility solutions that help cities address challenges such as air quality and congestion.

**Learn More:**

[Personal Mobility – Manage](#)

[Community – Manage](#)

[Launch Services for the Shared Economy](#)

[Accelerate the Future of Autonomous Vehicles](#)



Designing and manufacturing products through the responsible use of raw materials and natural resources.

**Learn More:**

[Operations – Manage](#)

[Commit to a 100% Renewable Future](#)

[Eliminate Coal-Based Emissions & Drive Energy Conservation](#)

[Achieve Waste-Reduction Goals](#)

[Manage Water-Related Risks](#)

[Help Build a More Circular Economy](#)



Increasing the fuel economy of our vehicles and using less-carbon intensive manufacturing processes to mitigate the effects of climate change.

**Learn More:**

[Vehicle Efficiency & Emissions – Manage](#)

[Advanced Efficient Fundamentals](#)

[Commit to Fuel-Cell Technology](#)

[Champion EV Market Growth](#)

[Operations – Manage](#)

[Commit to a 100% Renewable Future](#)

[Eliminate Coal-Based Emissions & Drive Energy Conservation](#)



Practicing responsible water conservation techniques and supporting biodiversity in and around our facilities.

**Learn More:**

[Manage Water-Related Risks](#)

[Support Biodiversity at GM Sites](#)



Promoting and protecting biodiversity through certified wildlife habitats at our facilities.

**Learn More:**

[Support Biodiversity at GM Sites](#)



Conducting business in an accountable manner through rigorous ethics and compliance throughout our value chain.

**Learn More:**

[Ethics – Manage](#)

[Conduct Compliance Training](#)

[Improve Compliance Continually](#)

[Enforce & Safeguard Use of Conflict Minerals](#)



Partnering and collaborating with third parties to solve our industry's greatest challenges.

**Learn More:**

[Stakeholder Engagement](#)

General Motors is a member of the United Nations Global Compact, which endorses a framework of principles in the areas of human rights, labor and the environment. We are committed to these principles and are actively implementing them as detailed in this report.

**HUMAN RIGHTS**

UNGC Principle	Report Links
1. Businesses should support and respect the protection of internationally proclaimed human rights.	<a href="#">Supply Chain</a> <a href="#">Talent</a> <a href="#">Ethics</a>
2. Businesses should make sure that they are not complicit in human rights abuses.	<a href="#">Supply Chain</a> <a href="#">Ethics</a> <a href="#">Talent</a>

**LABOR STANDARDS**

UNGC Principle	Report Links
3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	<a href="#">Talent</a>
4. Businesses should uphold the elimination of all forms of forced and compulsory labor.	<a href="#">Supply Chain</a>
5. Businesses should uphold the effective abolition of child labor.	<a href="#">Supply Chain</a>
6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.	<a href="#">Supply Chain</a> <a href="#">Talent</a>

**ENVIRONMENT**

UNGC Principle	Report Links
7. Businesses should support a precautionary approach to environmental challenges.	<a href="#">Operations</a> <a href="#">Vehicle Efficiency &amp; Emissions</a>
8. Businesses should undertake initiatives to promote greater environmental responsibility.	<a href="#">Operations</a> <a href="#">Vehicle Efficiency &amp; Emissions</a>
9. Businesses should encourage the development and diffusion of environmentally friendly technologies.	<a href="#">Operations</a> <a href="#">Vehicle Efficiency &amp; Emissions</a> <a href="#">Personal Mobility</a>

**ANTI-CORRUPTION**

UNGC Principle	Report Links
10. Businesses should work against corruption in all its forms, including extortion and bribery.	<a href="#">Ethics</a> <a href="#">Supply Chain</a> <a href="#">Governance</a>



**General Motors Global Environmental Performance Indicator Data (2016) – Waste Materials**

***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. GHD was retained by GM to conduct an independent review and limited assurance of environmental indicator data for GM's global facilities for the 2016 calendar year reporting period. The objective of the assurance process was to assess the reliability of the data for specified environmental indicators. 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. GHD's responsibility in performing our assurance activities is to GM management only and in accordance with the terms of reference agreed with GM. GHD provides environmental consulting and engineering/construction services to GM unrelated to this assurance engagement.

***Approach and Limitations***

GHD'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 waste materials for individual facilities from each region, GHD identified a sample of 24 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. GHD reviewed supporting information and calculations provided by GM for the selected facilities and conducted supplemental evaluations in an effort to replicate the results and identify material discrepancies. GHD also conducted discussions with GM personnel responsible for managing the data collection activities and reporting the 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.

***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. On the basis of the method and scope of work undertaken and the information provided by GM to GHD, the processes undertaken by GM to compile and manage the waste materials data for its global manufacturing facilities provide a reliable and accurate means of reporting the related environmental performance indicator 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. GHD recommends that GM consider GHD's indicator-specific findings as part of GM's ongoing review of internal facility data collection and reporting procedures.

GHD

**Julian Hayward, P.Eng.**

Dated: March 29, 2017



**Page 31**

**Material:** The use of “material” or “materiality” in this report is not related to or intended to convey matters or facts that could be deemed “material” to a reasonable investor as referred to under U.S. securities laws or similar requirements of other jurisdictions.

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**New Car Assessment Program Top Performing Models:** Information about crash avoidance technologies as part of the Government 5-Star Safety Ratings program can be found at [www.SaferCar.gov](http://www.SaferCar.gov)

**100% of Buick Models Tested Have 5-Star Overall Vehicle Safety Score:** Government 5-Star Safety Ratings are part of the National Highway Traffic Safety Administration’s (NHTSA’s) [New Car Assessment Program](#)

**Forward Automatic Braking:** Also includes Low-Speed Forward Automatic Braking

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**Bolt EV and Volt range:** Your actual range may vary based on several factors including temperature, terrain and driving technique.

**Page 62**

**Fuel Economy:** EPA-estimated combined fuel economy.

**Page 106**

**Waste Intensity:** 2015 value updated, reflecting an increase due to previously under-reported sand generation from Foundry Activities. Effective 2016, GM modified its definition of beneficial reuse to include byproduct used for landfill construction or cover to meet landfill engineering requirements where it replaces sourcing new (or virgin) material, which aligns with external stakeholder practices.

**Cautionary Note on Forward-Looking Statements.** This document may include forward-looking statements. These statements are based on current expectations about possible future events and thus are inherently uncertain. Our actual results may differ materially from forward-looking statements due to a variety of factors, including: (1) our ability to deliver new products, services and experiences that attract new, and are desired by existing, customers and to effectively compete in autonomous, ride-sharing and transportation as a service; (2) sales of full-size pick-up trucks and SUVs, which may be affected by increases in the price of oil; (3) the volatility of global sales and operations; (4) aggressive competition, including the impact of new market entrants; (5) changes in, or the introduction of novel interpretations of, laws, regulations or policies particularly those relating to free trade agreements, tax rates and vehicle safety and any government actions that may affect the production, licensing, distribution, pricing, or selling of our products; (6) our joint ventures, which we cannot operate solely for our benefit and over which we may have limited control; (7) compliance with laws and regulations applicable to our industry, including those regarding fuel economy and emissions; (8) costs and risks associated with litigation and government investigations; (9) compliance with the terms of the Deferred Prosecution Agreement; (10) our ability to maintain quality control over our vehicles and avoid recalls and the cost and effect on our reputation and products; (11) the ability of suppliers to deliver parts, systems and components without disruption and on schedule; (12) our dependence on our manufacturing facilities; (13) our ability to realize production efficiencies and cost reductions; (14) our ability to successfully restructure operations in various countries; (15) our ability to manage risks related to security breaches and other disruptions to vehicles, information technology networks and systems; (16) our ability to develop captive financing capability through GM Financial; (17) significant increases in pension expense or projected pension contributions; (18) significant changes in the economic, political, and regulatory environment, market conditions, and foreign currency exchange rates; and (19) uncertainties associated with the consummation of the sale of Opel/Vauxhall to the PSA Group, including satisfaction of the closing conditions. A further list and description of these risks, uncertainties and other factors can be found in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, and our subsequent filings with the Securities and Exchange Commission. GM cautions readers not to place undue reliance on forward-looking statements. GM undertakes no obligation to update publicly or otherwise revise any forward-looking statements.