



# TRANSFORMATION in Progress



*Chevrolet Bolt with Cruise Automation*

**We're accelerating progress toward an era of safer, better and more sustainable personal mobility by transforming how General Motors approaches every aspect of its business.**

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# ASPIRATIONS

We Achieve Sustainable Progress  
by Setting Our Sights High.



## CUSTOMERS

Earn Customers for Life



## SAFETY

Zero Crashes and  
Zero Workplace Injuries



## PRODUCTS

Zero Emissions



## PERSONAL MOBILITY

Zero Congestion



## SUPPLY CHAIN

Positive Environmental  
& Social Impact



## TALENT

Realize Everyone's  
Potential



## GOVERNANCE & ETHICS

Full Transparency  
& Integrity – Always



## OPERATIONS

Positive Environmental  
& Social Impact



## COMMUNITY

Safe, Smart & Sustainable  
Communities

OUR **VISION**

WE SEE A WORLD WITH

**ZERO** CRASHES  
**ZERO** EMISSIONS  
**ZERO** CONGESTION

and our people are the driving force behind making this a reality.

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## **We Are General Motors**

We are committed to **SAFETY** in everything we do.

We earn **CUSTOMERS** for life.

We build **BRANDS** that inspire passion and loyalty.

We translate breakthrough **TECHNOLOGIES** into vehicles and experiences that people love.

We create **SUSTAINABLE** solutions that improve the **COMMUNITIES** in which we live and work.

**O U R V A L U E S**

**CUSTOMERS**

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

**EXCELLENCE**

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

**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.

**SEEK TRUTH**

We pursue facts, responsibly challenge assumptions and clearly define objectives. When we disagree, we provide additional context and consider multiple perspectives.

**How We Behave**



**THINK CUSTOMER**

I consider the customer's needs in everything I do.



**INNOVATE NOW**

I see things not as they are but as they could be.



**LOOK AHEAD**

I make decisions now with the long-term view in mind, and I anticipate what lies ahead.



**ONE TEAM**

I collaborate cross-functionally to achieve enterprisewide results.



**BE BOLD**

I respectfully speak up, exchange feedback and boldly share ideas without fear.



**IT'S ON ME**

I take accountability for safety and my own actions, behaviors and results.



**WIN WITH INTEGRITY**

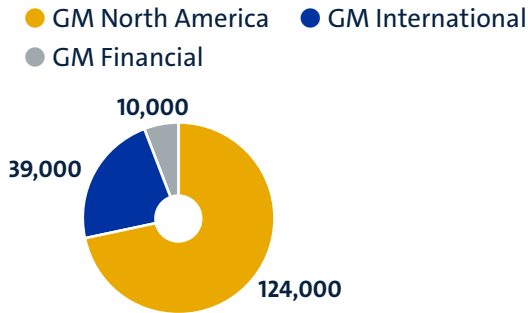
I have a relentless desire to win and do it with integrity.

**ASPIRE: Our Scale and Scope**

## Our Scale and Scope

### PEOPLE

#### 2018 Employees by Segment



**173,000**  
Total Employees  
Worldwide

### BRANDS

- |           |          |        |
|-----------|----------|--------|
| Buick     | Cadillac | OnStar |
| Chevrolet | GMC      | Maven  |
| Holden    | Baojun   | Cruise |
| Jiefang   | Wuling   |        |

### REACH

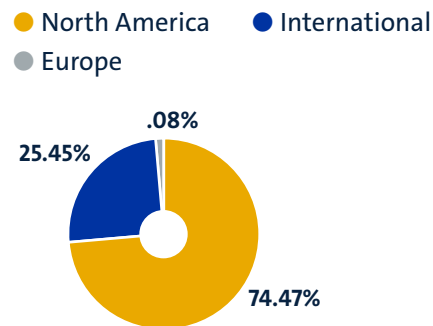
**5** Continents  
**12,509** Dealers  
Selling in  
**86** Countries

### MARKET POSITION

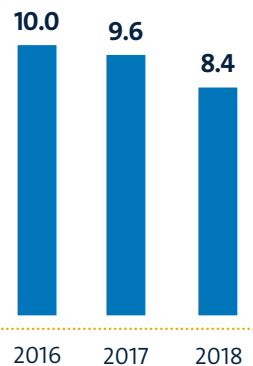
**#1** North America  
**#1** South America  
**#2** China  
**#3** Asia, Middle East, Africa

### SALES

#### 2018 Sales by Region



#### Total Sales\* (millions of units)



\* Includes sales from Europe

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

**25.4%** Trucks  
**14.8%** Crossovers  
**10.4%** Cars

### DISTRIBUTION

#### Authorized Dealerships by Region

- North America
- International



**14.5%**  
Fleet sales as a percentage  
of global sales



## Navigating the Road to Zero Crashes, Zero Emissions and Zero Congestion

A Message from Chairman and CEO Mary Barra

### Leadership Message

## To Our Stakeholders,

Two years ago, amid a sweeping business and cultural transformation at General Motors, we revealed our vision to create a world with zero crashes, zero emissions and zero congestion. Since then, that vision drives our business decisions because it is the right thing to do for our customers, our employees and future generations.

We are moving quickly to reshape the future of personal mobility to save lives, create a cleaner environment and end the traffic jams that waste our time and money. As you will see in this report, our journey is already well underway.

In 2018, we accelerated our transformation to position the company for long-term success in a rapidly changing world. As we continue to strengthen our core business, we are placing smart bets on technologies that will drive a future that is electric, autonomous, connected and shared.



*Chevrolet Bolt*

**ASPIRE: Leadership Message**

**Committed to an All-Electric Future**

Climate change is real, and we take the challenges it presents seriously. We also recognize the transportation sector needs to be part of the solution, which is why we believe in an all-electric future.

To this end, over the next two years we will double our resources allocated to electric and autonomous vehicle programs, and we will prioritize future investments in next-generation battery-electric vehicles. Here’s a look at our recent progress in electric vehicles (EVs):

- In June, we reconfirmed we are preparing a full lineup of electric vehicles, including an electric truck that is currently in development.
- In March, we announced a \$300 million investment in our Orion Township, Michigan assembly plant to produce a new Chevrolet electric vehicle, creating 400 new jobs. The vehicle will be built alongside the award-winning Chevrolet Bolt EV.
- In January, we announced Cadillac will be General Motors’ lead EV brand when we launch our next-generation, battery-electric vehicle architecture. This global architecture will be flexible and versatile, allowing us to build everything in our portfolio from just three drive units. This flexibility will allow us to deliver profitable EVs that also meet our customers’ needs for affordability and range.
- In 2018, we introduced two new all-electric vehicles in China, based on what we have learned from developing the Chevrolet Bolt EV: the Buick Velite 6 EV and the Baojun E200. China is the world’s largest EV market, and a major driver of EV adoption.

To support our growing EV portfolio, last fall we invested \$28 million in our battery lab at our Global Technical Center in Warren, Michigan, where we

conduct nearly all battery testing to reduce development time and cost. The investment funded new test chambers and advanced equipment that will help us accelerate our next-generation battery architecture. We continue to build lithium-ion batteries at our Brownstown Battery Assembly Plant.

Where it makes sense, we work with like-minded partners to bring EVs to market more quickly. In 2018, we announced a partnership with Honda to collaborate on advanced chemistry battery components, with Honda ultimately sourcing battery modules from General Motors. Our combined scale and manufacturing efficiencies will help each of us accelerate our EV programs.

**Advocating for an EV Ecosystem**

While the transition to an all-electric future will not happen overnight, we are tackling the numerous hurdles to adoption. We understand that consumers want zero-compromise EVs that are highly desirable and attainable, with long range and a robust charging network.

To address concerns about range, we recently announced we will work with Bechtel to build a public EV fast-charging infrastructure in the U.S. We will leverage our scale, flexibility and proprietary data to provide convenient charging options to EV customers as awareness and adoption continue to grow.

Earlier this year we announced our intentions to collaborate with EVgo, ChargePoint and GreenLots — three of the nation’s leading EV charging networks — to give our EV customers access to more than 31,000 charging ports, data about charge station availability and compatibility, and other real-time, data-driven features through the myChevrolet app.

*“While the transition to an all-electric future will not happen overnight, we are tackling the numerous hurdles to adoption.”*



Cadillac’s first fully-electric EV



Buick Velite 6





*Chevrolet Bolt with Cruise Automation*

On the policy front, we endorse the recently introduced Driving America Forward Act, a bipartisan measure that would encourage greater sales of electric vehicles by extending the federal EV tax credit.

Another step toward an all-electric future is our proposed National Zero Emission Vehicle (NZEV) program. It is a comprehensive approach to help move the U.S. faster toward zero emissions, while encouraging American innovation and preserving the country's industrial strength.

Under the plan we have submitted, manufacturers would need to meet steadily increasing targets for electrifying a portion of their light-duty vehicle fleets. In addition, we support further dialogue on continued EV research, EV infrastructure investment and federal incentives. The program could put more than 7 million long-range EVs on the road while reducing CO2 emissions by 375 million tons over current levels between 2021 and 2030.

### ***Reimagining Personal Mobility***

We believe the future is electric, and we also believe it is autonomous, connected and shared. General Motors is making rapid advancements today to disrupt the traditional one vehicle/one driver model of mobility.

Successful, widespread and safe deployment of autonomous vehicles (AVs) will require the right integration of technology, talent and manufacturing

expertise. When it comes to developing and deploying self-driving vehicles, General Motors and its Cruise AV subsidiary are in a unique leadership position, with everything from design, engineering, validation and testing all under one roof.

We believe this seamless integration is the safest way to develop autonomous vehicles, and with help from investments from the SoftBank Vision Fund (\$2.25 billion), Honda (\$2.75 billion), and most recently, funds advised by T. Rowe Price and existing Cruise partners, (\$1.15 billion), we will strengthen our commercialization plans.

These investments and strategic partnerships validate our approach to AV development, and importantly, give us the resources to tackle what we believe is the greatest engineering challenge of our generation.

At Cruise, we plan to add 1,000 employees this year — nearly doubling our workforce — as we develop and prepare to safely commercialize AVs. Cruise already operates an employee ridesharing network in San Francisco using Cruise AVs. Additionally, we are working with Cruise and Honda to develop a new, purpose-built AV for global deployment that can serve a wide variety of use cases.

Technologies such as Cadillac's hands-free driver assistance system, Super Cruise, are stepping stones to fully autonomous vehicles. This year

**ASPIRE: Leadership Message**

**~20%** of GM's operational electricity needs are powered by renewable energy



we are expanding the functionality of Super Cruise and adding another 70,000 miles of compatible divided highways in the U.S. and Canada, making this technology available on more than 200,000 miles of highways.

Self-driving vehicles are one way to disrupt the traditional ownership model; sharing is another. Through Maven, our on-demand shared mobility platform, we have learned a great deal about how urban customers use shared mobility. Our newest offering, peer-to-peer car sharing, allows owners of General Motors vehicles to earn money by listing their personal vehicle for Maven members to use.

**Reducing Our Environmental Footprint**

Beyond transitioning to electric, autonomous and shared vehicles, we are working across our global operations to minimize our environmental impact on the way to a zero-emissions future. Today, renewable energy powers about 20 percent of our operational electricity needs as we progress toward our 100 percent renewable energy commitment by 2050.

Thanks to a series of purchase agreements for wind power, our full-size SUV assembly plant in Arlington, Texas, runs entirely on wind energy, earning a spot on the U.S. Environmental Protection Agency's National Top 100 List of the largest green power users.

We also have entered into a wind power agreement with DTE Energy in Michigan to purchase 300,000 megawatt hours of electricity — enough to operate our Technical Center in Warren and our global headquarters in Detroit.

In addition to our renewable energy goal, we are committed to using less energy overall and reducing our carbon emissions globally. Since 2010, we have reduced our carbon intensity by over 20 percent, avoiding 1.5 million tons of carbon emissions — roughly the annual electric use of 260,000 homes.

Making our vehicles lighter and more efficient is another step toward zero emissions. As customers

continue to choose crossovers, trucks and SUVs over sedans, our teams work to ensure these vehicles are as efficient as possible through techniques like 3-D printing, parts consolidation, aerodynamics and the use of lighter materials.

We have removed an average of 350 pounds from each architecture on new-vehicle launches, compared to the previous model. This has reduced carbon emissions by about 312,000 metric tons per year, and demonstrates that strides toward zero emissions can also come from our traditional product lineup.

**Investing in Talent for Today and Tomorrow**

To deliver the technology, transformation and vision we've laid out, we must build a world-class, inclusive culture, with diverse perspectives and innovative ideas from people who feel they can bring their true selves to work.

A truly inclusive culture gives our business a competitive edge, and gives our customers winning vehicles and services.

As of June 2019, we have a majority female Board of Directors. This sends a message to current and prospective employees that our commitment to diversity begins at the top.

GM is proud to be ranked No. 1 for gender equality by Equileap, based on our commitment to pay equity at all levels of the company. Additionally, this year we were named to Bloomberg's Gender-Equality Index for our commitment to advancing women's equality.

Cultural transformation is every leader's job. We are accountable for developing a pipeline of diverse talent through career development, and from insights from our internal Executive Networks and Employee Resource Groups.

Looking to the future, our urgent priority is to create a strong pipeline of talent proficient in STEM disciplines



We are experiencing more change in the auto industry today than in the past **50 years**

— the future designers, IT professionals, engineers and leaders of our company. Third-party studies reveal that by 2025, there will be up to 2 million unfilled STEM jobs in the U.S. because of a lack of qualified candidates.

Given the right opportunities, women, minorities and other under-represented groups can help make up this shortfall. We are engaging students and sparking interest in STEM careers with a number of programs and partnerships at the intersection of STEM and the future of mobility, including:

- AI4ALL, a nonprofit dedicated to increasing diversity and inclusion in AI development;
- Girls Who Code, which gives girls from underserved communities access to computer science education and mentorship; and
- the International Society for Technology in Education, a national nonprofit focusing on education technology, setting standards for educational tech products and training teachers in STEM education.

We are also investing in our manufacturing base to support production of the crossovers, SUVs and trucks that today's customers prefer. In the past decade alone, we have invested about \$23 billion in our U.S. facilities, more than any other automaker during that timeframe, and nearly a quarter of all U.S. automotive manufacturing-related investments.



We will continue to invest in our core products because they will be an important part of our business for years to come.

***Powered by Our Purpose***

For years, we have said that the auto industry is experiencing more change today than in the past 50 years. That pace of change is only accelerating. With the right team, technology, resources and scale to achieve our vision, I believe the only thing that can stop us is not acting quickly enough.

Disruption creates uncertainty, but it also creates vast possibilities. I'm excited about the changes happening within General Motors, and the opportunity to create mobility solutions that will enhance shareholder value and lead to a better world.

Mary T. Barra  
Chairman and Chief Executive Officer

**ASPIRE: 2018 Highlights**

2018 Highlights

**PROGRESS TOWARD OUR VISION**

GM continues to work toward its vision of zero crashes, zero emissions and zero congestion. We're doing so through the integration of sustainability into every part of our business — all under the purview of our Board of Directors' Governance and Corporate Responsibility Committee, whose members regularly review progress with the Board.

**3.5X** 

Our AVs drove 3.5 times more miles in 2018 than in 2017. That underscores the tremendous progress we're making toward the commercial introduction of AVs — a key part of our zero-crashes vision. We also secured commitments for more than \$5 billion of external investment in our AV subsidiary, Cruise, demonstrating the level of confidence in our vision.

**20%** 

In 2018, 20 percent of our global electricity needs were met by renewable energy — well on the way to our commitment of 100 percent by 2050.

**#1** 

GM ranks first on Equileap's 2018 Gender Equality in the Workplace. Among the reasons: We are one of just two global businesses that has pay equality in top, middle and bottom bands, as well as no overall gender pay gap across the company.



GM ranks 14th and highest in our industry on the JUST 100, a ranking of companies whose business behaviors align with priorities of the American public in environment, social and ethical factors.

MEMBER OF **Dow Jones Sustainability Indices**

**4** In Collaboration with RobecoSAM 

Consecutive years that GM has been named to the Dow Jones Sustainability Index for North America and the second time named to the DJSI World Index.

**43%** 

Research by the Insurance Institute for Highway Safety has found that GM vehicles with autobrake and forward collision warning were involved in 43 percent fewer rear-end crashes compared to the same vehicles without those features.

**20%** 

We've reduced our manufacturing carbon intensity since 2010 — three years ahead of goal.



We are one of 230 companies selected for the 2019 Bloomberg Gender-Equality Index, which recognizes companies committed to transparency in gender reporting and advancing women's equality.

**1st** 

GM is the first and currently only automaker to be led by a female CEO and the only member of the Fortune 20 to have a female CEO and CFO.

**1 in 3** 

GM employees participate in a GM-sponsored Employee Resource Group, which nurtures a culture of inclusion throughout the company.

**2** 

In 2018, we introduced two new EVs in China, the world's largest new energy vehicle market. In the U.S., Cadillac will be our lead brand for electrification technologies, and 75 percent of our engineering force will be focused on clean energy technologies.

**1.2 million** 

In 2018, more than 1.2 million gallons of gas were saved through Maven Gig.

**1st** 

We are the first automotive company to commit to the future of sourcing sustainable natural rubber for tires in order to mitigate deforestation and its effects on climate change.



## Sustainability Road Map



Sharon Basel,  
Senior Manager, Sustainability

# Q

*“We’re transforming our approach to supply chain by taking a more holistic, multitiered approach, going well beyond Tier 1 to understand impacts.”*

### The theme of this year’s report is “Transformation in Progress.” How does that support GM’s vision of zero crashes, zero emissions, zero congestion?

Every decision we make and every action we take is about realizing that vision. And that vision is so much bigger than GM’s business. It’s really about transforming personal mobility in the future — finding ways to deliver all the benefits of personal mobility without any of the negative impacts. To get there, however, we have to transform as a business, and that’s what is happening today throughout the company on a global basis. And it goes way beyond moving vehicles away from the internal combustion engine to electrification.

### So you’re not just talking simply about the transformation of GM’s product portfolio?

No, much broader transformation is required to get there. We’re transforming our workforce, for example, by moving three-quarters of our product development and engineering talent from traditional to advanced technologies. We’re transforming our approach to supply chain by taking a more holistic, multitiered approach, going well beyond Tier 1 to understand impacts. We’re transforming our view of strategic partnerships, working with a competitor — Honda in this case — to collaborate on autonomous technology. We’re championing public-private partnerships to accelerate charging infrastructure. And the list goes on. It’s a very different outlook than we had even as recently as five years ago, and I think it speaks to the incredible pace of change happening in the automotive industry.

### GM has put a lot of emphasis in recent years on reshaping its culture. How does this effort factor into the transformation journey?

It’s foundational, and it’s been a priority for our senior leadership ever since the ignition switch recall in 2014. We realized then that the underlying culture had to change — and to do that, we had to change our behaviors. The culture had to become more accountable and embrace a common set of values and ways of behaving at work. Now, we’re much more open about showing recognition when we see peers living out our behaviors — as well as speaking up when something’s not right. Culture is also a strategic priority because it helps us attract and retain the talent required to move toward our vision.


**ASPIRE: Sustainability Roadmap Q&A**

(Cont.)

### What are some of the attributes of this new culture?

There has been a tremendous emphasis on safety — both of our products and our workplace. That was important coming out of the recall, and it's critical to our future. After all, the first step to realizing a vision of zero crashes is to create a culture of safety. As you'll read in this year's report, we've made significant progress in the area of workplace safety. Diversity and inclusion are also real strengths today at GM. It's an area that we've been working on for years, and, while there's always room for improvement, we have some really interesting initiatives underway, such as our Take 2 re-entry program.

### How does the idea of sustainability fit into GM's culture today?

It's hard to think of a business concept that incorporates sustainability more than our zero-zero-zero vision. If everyone is working toward that vision, then a sustainable mindset is automatically institutionalized and integrated by every function in the organization. We've also seen an enhanced awareness and appreciation of the potential for sustainability to create and drive business value — in part thanks to increased investor interest.

### In what way?

Asset managers are placing a much greater interest on nonfinancial issues. One in every four dollars under asset management in the U.S. now considers ESG criteria. That creates a very tangible and universal language that everyone in the company can understand. So whether you're a new or seasoned employee, whether you're in finance or quality, you can now see a clear line between sustainability-related principles and initiatives and how the capital markets are valuing our business. That permeates the way we do business and the thoughts and considerations that we put into our work.

### Are you engaging more with ESG-minded investors? What do those engagements look like?

We're engaging much more frequently and see these engagements as critical for two reasons. First, we're committed to being transparent and continually try to publicly share more data. We want to engage with as many players in the ESG community as possible — investors, as well as raters and rankers — to ensure that GM data is being represented accurately. Second, and equally as important, engagement is an opportunity to provide context. Data is just data until you talk about it. That's when investors can really get an understanding of what we're doing, why we're doing it and the progress that is being made.

### Has this influenced your decision to report across more frameworks, such as SASB and TCFD?

To some extent it has been in response to feedback from investors, but we also look to these various frameworks to help determine where we should focus our attention. They provide us a way to analyze gaps in our disclosure and help drive performance. We also are cognizant of the fact that the transportation industry is now the largest emitter of greenhouse gas (GHG) emissions. That means we have an obligation, and our stakeholders expect us to look at a broad set of criteria when it comes to climate-related disclosure.

### How has climate change evolved as an issue within GM's business?

Climate change and sustainability continue to be a focus of our business and have been incorporated into our enterprise risk management process. As a result, these topics are at the forefront of everyday decision-making and requires active management and review at the highest levels of the company. Also in 2018, for the first time, a cross-functional team held a climate change workshop that envisioned several different scenarios related to a 2-degree warming. These developments really underscore how far GM has matured with respect to integrating sustainability into the business and how these topics are shaping where we go as a company.

### As you conclude this reporting cycle, what achievements are you most proud of over the past 12 months?

Internally, it's amazing to see how the entire organization is embracing our vision, values and behaviors on a daily basis. Hardly a meeting goes by when I don't hear someone bring up how the topic under discussion or the decision being made will help us achieve our zero-zero-zero vision. As a veteran GM employee, I can report that the cultural shift is real and continuing to progress. Externally, I'm thrilled with the recognition that GM is receiving, particularly around gender, diversity. This is an issue important to GM employees, and it's really been brought to light through disclosure and reporting. When we get named to the JUST 100 two years in a row or earn the No. 1 spot for workplace gender diversity by Equileap, it's a win for every GM employee everywhere in the world.



## Sustainability Strategy

# Moving Toward Our Vision

General Motors' sustainability strategy is synonymous with its business strategy: to deliver safer, simpler and sustainable transportation solutions for our customers. In doing so, we'll realize our vision for personal mobility — a world with zero crashes, zero emissions and zero congestion.

Our strategy reflects today's transportation revolution that is transforming how people move — an effect similar to the debut of the automobile more than a century ago. The vehicles leading this transformation are autonomous, electric, connected and shared. Throughout the company, we are focused on initiatives that capitalize on these new technologies and business models to create products, offer services and advocate for policy that looks at transportation as a system and mobility as a service. This will result in a world where sustainable transportation is a reality for daily life and enables communities to grow more prosperous and livable.

### ***Our Position on Climate Change and Fuel Economy Standards***

At General Motors, we take the challenge of climate change seriously. We acknowledged long ago that climate change is a reality and recognize that the transportation sector is a leading contributor to global GHG emissions. This is a driving force behind our vision of a future of zero crashes, zero emissions and zero congestion. Climate change and sustainability continue to be a focus of our business and have been incorporated into our enterprise risk management process. This designation ensures that these issues are at the forefront of daily decision-making and that we manage them at the highest levels of the organization. As an example, we recently held a cross-functional climate change workshop to assess the risks, challenges and opportunities associated with various 2-degree warming scenarios. See page 126 in the Governance & Ethics section of this report for a full discussion of the workshop.

We have consistently and publicly advocated for climate action and awareness, as well as policies putting a value on carbon. These actions are documented in the timeline on page 16. Our global commitment to improving fuel economy, reducing emissions and an all-electric, zero-emissions future is unwavering, regardless of any modifications to existing emissions standards currently under review in the United States. In the U.S., we support modernizing the standards and creating one national program working with California and all stakeholders. This is why we've called for a U.S. National Zero Emissions Vehicle program, which is detailed on page 66 of this report.

We intend to continue working with the California Air Resources Board, Environmental Protection Agency and the National Highway Traffic Safety Administration to improve fuel economy and our environment.

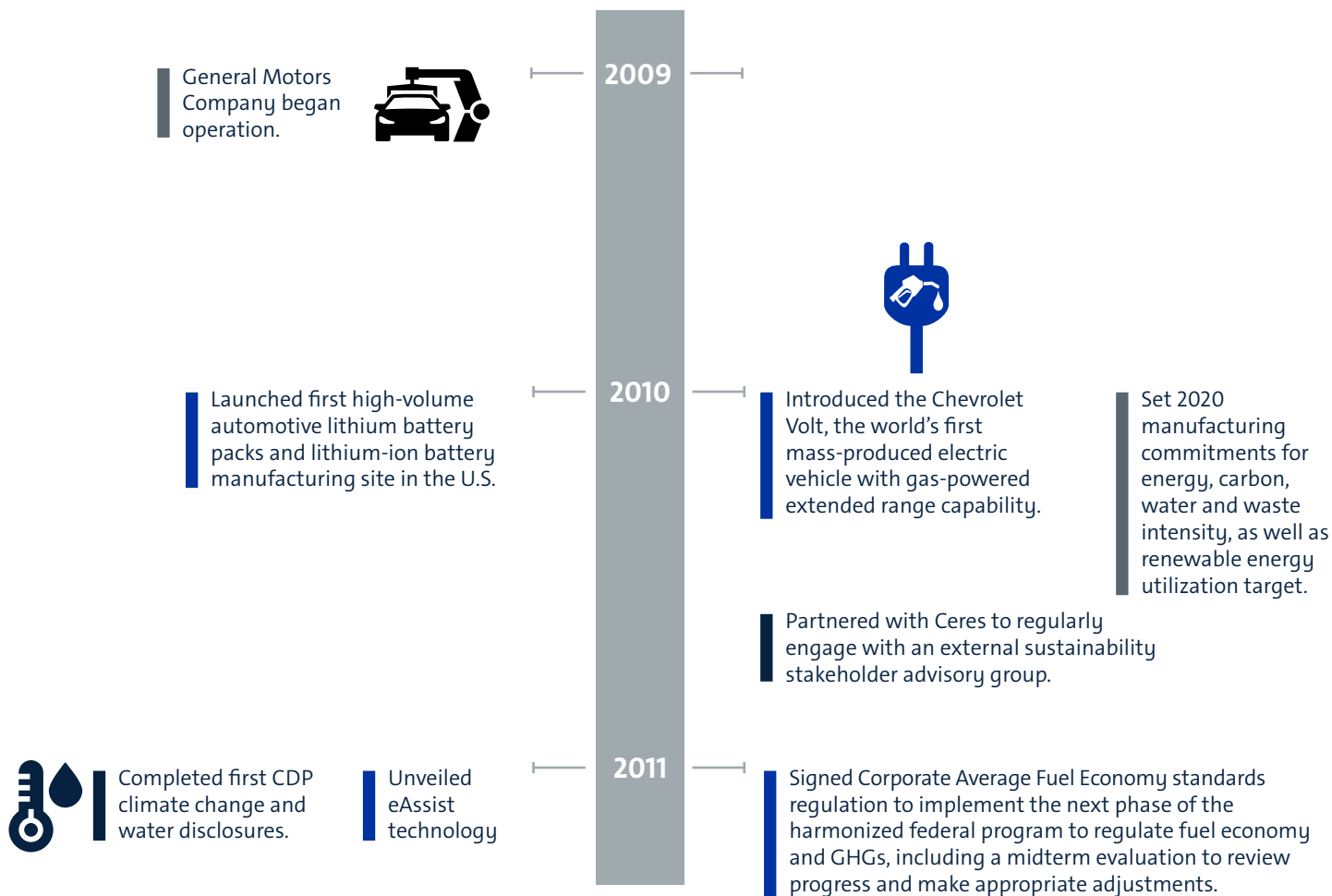
Our zero-emissions vision extends beyond products to our manufacturing operations, where we have committed to use 100 percent renewable energy by 2050. We are committed to transparent disclosure of our GHG emissions and actions we are taking to reduce them globally. We have consistently reaffirmed these points with our global employees and other stakeholders, including policymakers, regulators and shareholders.

### ***Business Integration***

We consider and integrate sustainability into every aspect of our business and value chain. This process 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. Our work is grounded in our values, with the customer as our compass to guide decisions, with strong and transparent stakeholder relationships, with excellence as our standard and with a commitment to seek the truth.

# Timeline: GM and Climate Change Action

For nearly a decade, General Motors has been working to mitigate the effects of and increase awareness of climate change — from innovative technologies to transparent disclosure to industry collaboration.





**ASPIRE: Timeline**

**PRODUCTS**

**OPERATIONS**

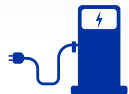
**SUPPLY CHAIN**

**ADVOCACY**

**DISCLOSURE**



2012



Introduced Chevrolet Spark EV and Cadillac ELR.

Announced product goals for electrification, fuel economy improvements and CO2 emissions reduction.



Scored 100 on CDP transparency scale; joined CDP Supply Chain program.



First major manufacturer to sign Ceres Business for Innovate Climate & Energy Policy (BICEP) Climate Declaration

Built on relationships with Duke Energy, Google, GE, conEdison and Cisco to research and develop charging infrastructure knowledge and best practices.

Introduced the EREV models in China, Australia and Europe.

2013

Joined U.S. EPA SmartWay Transport Partnerships.

Introduced the Sail EV from Shanghai GM, the first EV developed for the Chinese market.

Participated in first Dow Jones Sustainability Index.



Announced collaboration with Honda for development of fuel-cell technology.

Expanded CDP Climate Change disclosure to all 15 categories of Scope 3 emissions.



Conducted life cycle analysis of energy, water and GHG emissions associated with parts production.



Expanded discussion of climate change risk in SEC 10-K filing.

2014

Founding member of Business Renewables Center at the Rocky Mountain Institute.



Achieved fuel efficiency of at least 30 mpg highway for about 40 percent of vehicles sold, with six U.S. models achieving an EPA-estimated 40 mpg highway.

**ASPIRE: Timeline**

**PRODUCTS**

**OPERATIONS**

**SUPPLY CHAIN**

**ADVOCACY**

**DISCLOSURE**



Signed Renewable Energy Buyers' Principles.

Began to participate in key stakeholder dialogues around The 3% Solution: Driving Profits Through Carbon Reduction, an effort led by CDP and WWF.

Signed American Business Act on Climate Pledge with a \$140 billion commitment to low-carbon investments.

Signed a statement facilitated by the World Economic Forum in support of a positive outcome at Paris COP21 and for putting a value on carbons.



Became only North American automaker named to DJSI.



Avoided approximately 228K metric tons of carbon through vehicle lightweighting.

Reached 100 percent of 2020 renewable energy goal and committed to meeting all global facilities' electricity needs through renewable energy by 2050.

Achieved landfill-free manufacturing target four years early with a total of 152 landfill-free sites worldwide, which avoided over 9 metric tons of GHG emissions.



Eliminated all on-site coal emissions at operations.

**2014**

Increased renewable energy use to over 100MW, which included more solar installations than any other U.S. automaker.



**2015**

Concluded Chevy Carbon Reduction Initiative with \$40 million investment in carbon reduction projects.



Introduced second-generation Chevrolet Volt EV.



Introduced the 2016 Malibu Hybrid, which used efficient fundamentals to increase fuel economy to an EPA-estimated 47 mpg city.

**2016**

Announced the addition of a plug-in hybrid electric propulsion system to the Cadillac CT6 in China and U.S.

Introduced the Chevy Bolt EV.



Joined RE100, backed by The Climate Group in partnership with CDP, to accelerate renewable energy.

Formed 50-50 joint venture with Honda for fuel-cell production.

Introduced electrification road map for China, with plans to roll out more than 10 NEVs through 2020.



Signed the Guiding Principles to Promote Electric Vehicles and Charging Infrastructure.

**ASPIRE: Timeline**

**PRODUCTS**

**OPERATIONS**

**SUPPLY CHAIN**

**ADVOCACY**

**DISCLOSURE**



Named to DJSI North America and World Sustainability Indices and CDP Climate and Supplier Climate A lists.



Surpassed 2020 manufacturing carbon intensity commitment three years early with a 22 percent reduction against a 2010 baseline.

Honored with Motor Trend Car of the Year for the Chevrolet Bolt EV.



Introduced the Buick Velite 6 and the Baojun E200 as part of our EV portfolio in China.

Increased production of the Chevrolet Bolt EV.

Conducted internal scenario planning workshop on risks associated with global warming of two degrees.



2017

Announced vision for a world with zero crashes, zero emissions, and zero congestion.



Counted five new energy vehicles in China portfolio.

Continued fuel cell innovation with the introduction of a concept vehicle on a heavy-duty truck frame.



Became first automotive company to commit to develop a pathway toward sustainable natural rubber for tires to combat deforestation.

2018

Called for a National Zero Emission Vehicle Program program in the U.S. that would require automakers to incorporate ZEVs as an increasing part of their portfolio — up to 25 percent by 2030.

Announced Cadillac as the lead electric vehicle brand in the U.S.

Partnered with Honda to develop next-generation battery technologies.



Launched a pilot program with Consumers Energy in Michigan to test smart charging for EVs.



Awarded the 2018 SmartWay Excellence Award, which recognizes the top 2 percent of SmartWay freight partners with superior environmental performance.



## Stakeholder Engagement

# Collaborating to Move Humanity Forward

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 sharing information and informing business decisions with 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, stakeholder focus groups, congressional testimony, blog posts and community meetings.

For the past nine years, our global sustainability team also has engaged with an external sustainability stakeholder advisory group that is coordinated

through Ceres, a nonprofit organization advocating for corporate sustainability leadership. Members of this group include NGOs, socially conscious investors, peer companies, fleet customers and suppliers, all of whom provide external perspective on GM strategy and priorities.

### **ESG Interest From Investors**

We continue to see increased interest in nonfinancial issues from investors who believe that these issues and positive contributions to society can be important to long-term performance. In response, we are engaging with investors more often on these topics so that both GM's financial and nonfinancial performance can be considered together. As an example, in early 2019, a GM team — including our CEO, CFO, corporate secretary, and director of investor relations, as well as GM's lead independent director and the chair of the Board's governance and corporate responsibility committee — conducted briefings with some of our largest shareholders. Topics included corporate governance, company culture, workplace and vehicle safety, and diversity and inclusion.

**ASPIRE: Stakeholder Engagement**

**Strategic Relationships**

Our regular engagement with stakeholders demonstrates the effectiveness of our strategy to work with the most impactful organizations and pursue meaningful partnerships around sustainability issues that are critical to our business. Throughout this report, we document many of these relationships. Here are some representative examples:



**ISSUE: Vehicle Safety**  
National Highway Traffic Safety Administration  
Page 39



**ISSUE: Distracted Driving**  
DoSomething.org  
The PEERS Foundation  
Virginia Tech Transportation Institute  
University of Michigan Transportation Research Institute  
Pages 54, 55



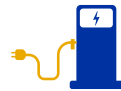
**ISSUE: EV Charging Infrastructure**  
Various Utility Partners  
Page 58



**ISSUE: Fuel Economy**  
U.S. Environmental Protection Agency  
National Highway Traffic Safety Administration  
Pages 15, 58, 66



**ISSUE: EV Awareness**  
Veloz  
Drive Change. Drive Electric.  
Page 68



**ISSUE: EV Fast Charging**  
Consumers Energy, EVgo, ChargePoint, Greenlots  
U.S. Department of Energy  
Pages 57, 71



**ISSUE: Autonomous Vehicle Safety**  
Ford, Toyota, SAE International  
Page 84



**ISSUE: Responsible Supply Chain**  
Automotive Industry Action Group  
National Institute of Standards and Technology  
International Automotive Task Force  
Page 89



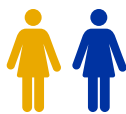
**ISSUE: Sustainable Natural Rubber**  
World Business Council on Sustainable Development  
Tire Industry Project — Global Platform for Sustainable Natural Rubber  
Page 97



**ISSUE: Conflict Minerals & Cobalt**  
Responsible Minerals Initiative  
Page 98



**ISSUE: Labor Relations**  
United Autoworkers  
Page 103



**ISSUE: Diversity**  
CEO Action for Diversity & Inclusion  
Pages 103, 114



**ISSUE: Renewable Energy**  
Renewable Energy Buyers Alliance  
Pages 133, 142



**ISSUE: Biodiversity**  
Wildlife Habitat Council  
Pages 133, 146



Reporting Practices

## Aspiring to Best-in-Class ESG Transparency

**#4**  
 Most Transparent  
 S&P 500 Companies  
 Reporting ESG Metrics

— AGENDA Newsletter, Money-Media Inc.

General Motors is committed to publicly reporting on environmental, social and governance (ESG) topics on an annual basis, discussing the opportunities and challenges that we encounter as we work to

enhance performance and conduct business in the most responsible manner possible. The reporting process not only helps us manage and measure our progress, but also helps us to engage with both internal and external stakeholders around the world.

**Reporting Scope**

Our previous report covered calendar year 2017 and was published in June 2018. The editorial content of this report, the 2018 Global Impact Report, generally covers subject matter for calendar year 2018 and early 2019 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, 2018.

**Presentation of Content**

Unless otherwise indicated, information in this report relates to our continuing operations. It should be noted when reviewing past year data that on July 31, 2017, we closed the sale of the Opel and Vauxhall businesses and certain other assets in Europe (the Opel/Vauxhall Business) to Peugeot, S.A. (PSA Group). On Oct. 31, 2017, we closed the sale of the European financing subsidiaries and branches (the Fincos, and together with the Opel/Vauxhall Business, the European Business) to Banque PSA Finance S.A. and BNP Paribas Personal Finance S.A. The European Business is presented as discontinued operations in our consolidated financial statements for all periods presented. Upon our divestiture of Opel and Vauxhall, GM used the GHG Protocol Corporate Accounting and Reporting Standard, published by WBCSD and WRI as a basis for our methodology for publicly reporting GHG.

**ASPIRE: Reporting Practices**

**Reporting Frameworks**



This report has been prepared according to GRI Standards: Comprehensive Option.



This is the second year that GM has reported to the Sustainability Accounting Standards Board framework. Our intent is one of continuous improvement as we report to metrics included in the Transportation Standards.



The Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) has developed a voluntary, consistent, climate-related financial risk disclosure for use by companies in providing information to investors, lenders, insurers and other stakeholders. The TCFD framework rests on four main tenets. The table on page 183 provides sections of this report that address those tenets.



GM supports both of these initiatives and includes indexes for them in this report. During 2019, we are refreshing our materiality assessment and intend to use this exercise to focus on the UN Sustainable Development Goals that align most closely with our greatest impacts.

**Assurance**

For 2018, Stantec conducted an independent review for limited assurance on waste, water, carbon and energy data for global facilities. See page 192 for Stantec’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 Assessment**

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 to three 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 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 ESG topics and subtopics.



**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.



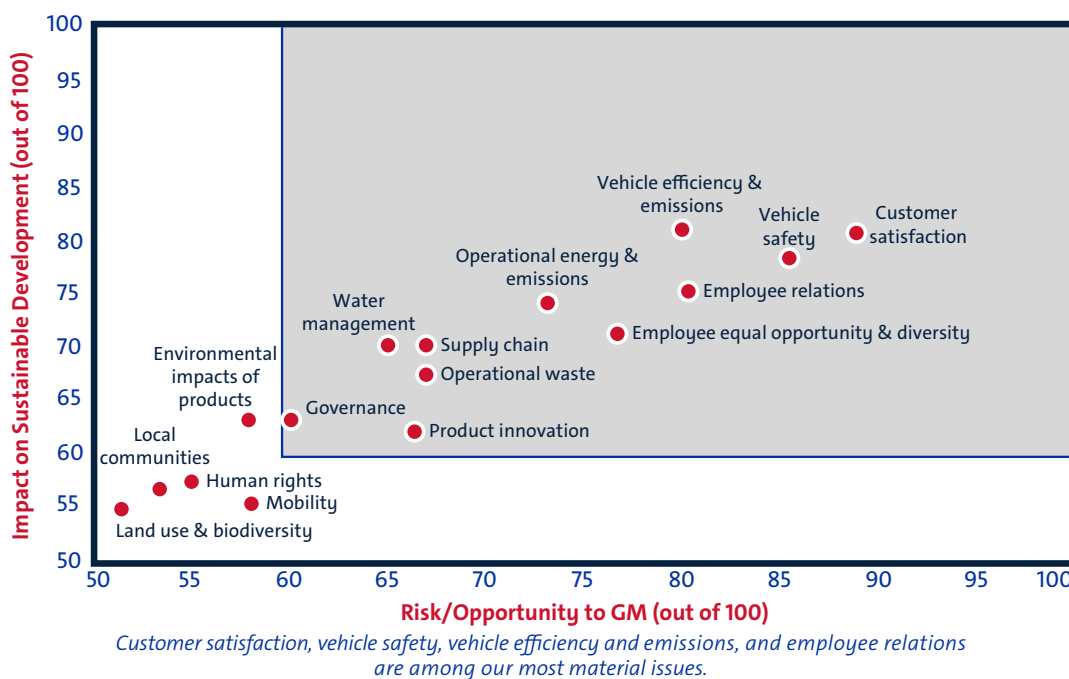
**Validate:** Based on the survey results, all 16 topics were plotted on a preliminary materiality matrix, which was reviewed by a Sustainalytics automotive sector analyst in order to validate the relative importance of each topic. Based on this review, the relative importance of six topics was increased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

**ASPIRE: Reporting Practices**

(Cont.)

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.



**CDP Reporting**

GM has worked with CDP since 2010, when we began tracking carbon emissions and reduction activities through the CDP Climate Change Program. Since 2013, we have reported all 15 categories of Scope 3 emissions. In addition to the climate change program, we have voluntarily participated in the CDP Water program since 2011 and were named to the CDP Water and CDP Supply Chain A lists in 2018.

We also participate in the CDP Supply Chain program, engaging our supply chain for the past five years in actions to reduce their emissions, mitigate their effects on climate change, address water security and strengthen their overall businesses. In 2018, we invited 340 suppliers to participate in CDP’s Supply Chain climate change and water programs. Sixty-one percent of our suppliers who were invited responded that they had reduced carbon emissions in total by 27 million metric tons in 2018, saving a cumulative \$1.4 billion, of which 540,000 metric tons reduced and \$28 million in savings were attributed to their business with GM. 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 GHG emissions and water impact and prioritize our climate change risk management within the GM supply chain.



# CUSTOMERS

ASPIRATION: Earn Customers for Life



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What We Aspire To:  
Earn Customers for Life

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- 36 Help Customers Get Home Safely



# What We **ASPIRE** To:



*Buick Regal*

## Earn Customers for Life

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 and as customers' relationships with their vehicles change. Research has shown that companies that lead in customer experience generally enjoy a higher stock valuation than those that lag in customer experience. When you consider that a single percentage point improvement in U.S. customer retention is equivalent to selling about 25,000 vehicles, or approximately \$700 million in annual revenue, depending on the mix of vehicles involved, the business benefits are compelling.

# Our MANAGEMENT Approach to Customers



Chevrolet Trax

Customer satisfaction speaks to what we believe as a company. Customers trust GM brands, operations and dealers around the world to provide them with quality products that will help them keep their families safe. We understand that this trust is easy to lose and difficult to regain. Today, we are more focused on this responsibility than at any other time in our history. Our 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 is grounded in an intent to deliver the highest possible levels of product quality. Our brands, products and services aim for benchmarks in studies measuring quality and consumer satisfaction. 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.



## TOPICS DISCUSSED IN THIS SECTION

Vehicle Development Process

Building a Defect Free Culture

Quality Assurance

Dealer Quality Programs

Customer Experience

### **Vehicle Development Process**

This total focus on the customer defines how we develop, engineer and manufacture our vehicles with quality and durability goals in mind, starting with the vehicle development process. We harness customer feedback from global markets to help shape our customers' product experience, using our GM Compass customer survey to gather preferences on 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 help deliver products our customers want that meet their expectations for quality, safety and performance. The latest version of our Global Vehicle Development Process was released in 2016 and included additional explicit steps to improve safety and quality assurance.

### **Building a Defect Free Culture**

The Global Vehicle Development Process is rooted in a cultural commitment to design, engineer and build defect-free vehicles.



 CUSTOMERS: Manage



(Cont.)

Building upon GM’s foundational “Who We Are” and “How We Behave” foundational statements, employees are committed to a goal of delivering defect-free vehicles as a value supported by key initiatives and behaviors. This commitment is supported by three elements:

1



**PRODUCT SAFETY,**

which in recent years has been enhanced through several organizational changes, including the formation of a Global Product Integrity organization, the restructuring of our global vehicle safety and safety field investigation process, as well as implementation of our Speak Up For Safety program, Prevent Repeat Defect process and Safety Incident Protocol.

2



**SYSTEMS ENGINEERING,**

which is being applied to our processes through a new organization that defines functional content, assigns function ownership and uses a new IT-based system to help map, flow and trace requirements across our complex systems network.

3



**QUALITY CHAIN,**

which is an interconnected system of tools and methods that illustrates required collaboration and drives visibility into how design, systems and process failure modes can be mitigated. This helps drive enterprisewide engagement so all issues can be corrected across all systems and processes.

Each element is interdependent, enterprisewide and designed to be sustained over the long term to facilitate the learning, practice and perfecting that are required to achieve a defect free culture.

Our Global Product Development function has translated GM’s vision of zero defects into values and behaviors that are meaningful for employees. These behaviors include a renewed focus on product safety, which we are strengthening with continuous improvement in our Global Product Integrity organization, the Speak Up For Safety system and a restructured safety field investigation process.

We are also emphasizing systems engineering companywide. This requires all people to practice the discipline of systems thinking, understanding

how their individual roles contribute to the bigger picture rather than thinking in silos. Related to systems thinking is our quality chain construct. GM has quality tools that work as interconnected processes and cross system and organizational boundaries. Using these tools together is helping us build discipline into our process for identifying and addressing failure modes.

These product development-centric elements are foundational to building a defect free vision and completed by our Launch Excellence initiative. The initiative uses an Affinity Diagram to help teams focus on what must be true in terms of process and discipline to successfully navigate vehicle development.



## CUSTOMERS: Manage



GMC Acadia Denali

(Cont.)

### Quality Assurance

All manufacturing operations that require ISO 9000 certification — a set of international standards on quality management and quality assurance — are certified. Globally, we have transitioned to the new ISO 9001:2015 standard, which is aligned with the most recent trends. All operations have completed the transition and certification in 2018. We have three component plants certified to the IATF 16949 standards. We also maintain a Global Manufacturing System (GMS) that informs all aspects of our business and 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).

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, the sound of an engine start or transmission shift, the feel of buttons when pushed or the 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 updated tools and programs is helping GM employees around the world 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 quality levels with the goal of shipping defect-free products. Operational Excellence has been implemented across the enterprise as a proven, systemwide and data-driven approach to confronting business issues and identifying lasting solutions.



## CUSTOMERS: Manage

**We measure customer satisfaction progress primarily through the Net Promoter Score (NPS), which is an important key performance indicator that gauges how likely a customer is to recommend our products**

(Cont.)

The goal of these and other programs is to take action as early as possible in the vehicle development and manufacturing process to promote excellence at product launch. This “quality across the enterprise” approach drives behaviors and actions throughout the company to result in brands, products and services that meet or exceed the expectations of our customers.

### **Dealer Quality Programs**

Our commitment to quality and customer satisfaction extends to the experience customers have when they visit our dealerships. It is essential that we maintain a consistent level of sales and service excellence to earn and maintain customer trust. Two elements of quality management systems help us achieve this consistency. We use Standards for Excellence (SFE) to measure dealers and Essential Brand Elements (EBE) to update and measure dealerships on the achievement of brand standards relating to the quality and effectiveness of dealers’ interaction with customers. The variable compensation of each dealership depends on the level of achievement under the SFE and EBE programs.

We also maintain the Mark of Excellence program, which annually recognizes high-achieving dealers, sales consultants, sales managers, service managers, service consultants, service technicians and parts teams. Out of GM’s 4,144 Chevrolet, Buick, GMC and Cadillac dealerships across the United States, 3,184 dealers and more than 65,210 dealer employees are enrolled in the Mark of Excellence program.

sales, as well as service, must maintain a certain level of training performance by meeting technical and nontechnical criteria. For example, to self-authorize warranty claims, a dealer must maintain 100 percent training for technicians at all times. Our GM Internal Audit Staff ensures dealer compliance by auditing all dealerships on a rotating basis. Dealers are required to achieve third-party Automotive Service Excellence certification of their facilities, an industry standard and a customer-recognized seal of quality. Furthermore, while ISO 9000 certification is not mandatory, many dealers are ISO 9000 certified.

### **Customer Experience**

We recognize that overall 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 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 (NPS), which is an important key performance indicator that gauges how likely a customer is to recommend our products. In 2018, 86.9 percent of customers responding to the survey were satisfied, exceeding our goal of 86.1 percent. Every customer also receives a dealer assessment, the Customer Satisfaction Index (CSI), that asks for feedback on both their sales and service experience at dealerships. In 2016, we incorporated questions associated with an NPS into our CSI survey and in 2017, expanded the CSI to a common global survey. We use the true NPS calculation, as we believe this data best represents customer satisfaction because it is a measure of advocacy. In addition to our internal metrics, we 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.



We provide both technical and nontechnical training and tools to dealerships to help them meet or exceed their customers’ expectations. This training includes modules for sales, finance, front office and management staff; apps for sales and service; and various reference documents such as FAQ documents. Different departments in the dealership relating to

# What We MEASURE



## J.D. POWER 2019 VEHICLE DEPENDABILITY STUDY

**16**

Vehicles in the Top Three in their segment

**5**

Vehicles won their segment — the most in the industry (Chevrolet Equinox, Chevrolet Silverado HD, Chevrolet Sonic, Buick LaCrosse, Buick Verano)

**4 of 10**

Most dependable vehicles in the study

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## CONSUMER REPORTS 2018 AUTO RELIABILITY SURVEY

**6**

Recommended models (Chevrolet Bolt EV, Chevrolet Cruze, Chevrolet Suburban, Chevrolet Impala, Buick LaCrosse, Buick Regal)

**1 million**

Drivers enrolled in My GM Rewards, the industry's first comprehensive loyalty rewards program

**4th consecutive year**

General Motors was named the IHS Markit automaker with the highest customer loyalty

**10 best**

2019 Chevrolet Silverado given Wards 10 Best Engine & Propulsion Systems Award



*Chevrolet Silverado 1500*

# ACTIONS We're Taking



## Ensure Customers Get

## Quality Repairs



Most car crashes result in the need for vehicle repairs. As advanced technology in vehicles grows more complex, however, so does the complexity of the repairs and the need for repair facilities with a proper knowledge of the technology.

This was the thinking behind the launch in 2018 of the GM Collision Repair Network, which will connect drivers with GM dealers and independent collision repair facilities. After a collision, the Repair Network, combined with OnStar, helps owners locate repair facilities where qualified technicians follow proper repair procedures using original equipment replacement parts.

GM dealerships and independent collision repair facilities who want to join the network must meet requirements for customer service, technical training and equipment. In turn, they gain the backing of GM quality standards to help them get every job done right the first time. The Collision Repair Network will build on GM's current training and tools-focused programs, while adding standards for pre- and post-repair scanning, repair procedures, calibration and overall repair. Repair facilities in the network should experience reduced time

### Cadillac Dealers Excel in China

**Cadillac was ranked number-one among mainstream luxury brands in the 2018 China Automobile After-Sales Service Consumer Experience Excellent Brand award presented by the China Automobile Dealers Association. Dealers were evaluated on five factors: service consultant, service facility, maintenance quality, maintenance time and maintenance price.**

spent on diagnosing and pulling repair procedures — leading to a more streamlined repair process for facilities and customers alike.

Dealers are meeting customers' needs in China with the CAREMORE service brand, launched by our SAIC-GM joint venture. Working with ACDelco and other partners, CAREMORE extends SAIC-GM's scope of aftersales service to better meet customer needs and resolve pain points related to quality, service and accessibility.



## Incubate Innovative

### Solutions

As we adapt to quickly evolving changes in the mobility space, we recognize that employees across GM have innovative ideas that may benefit our customers — and those employees need support to scale their ideas rapidly. This notion has led to the launch of iHub, a startup within GM product development innovation that serves as both a consultancy and incubator.

As a consultancy, iHub tackles tough problems to improve the GM customer experience. As an incubator, the group provides funding, resources and coaching to scale big ideas. Its signature programs include Synapse, a competition during which GM employee teams solve sponsored challenges to create the future of mobility.

During Synapse 2018, 29 teams were challenged to increase EV adoption by crafting an ownership experience that was aspirational and easy. The winning team proposed offering Maven credits to future Bolt EV owners to use gas-powered Maven cars for occasional long-range trips,

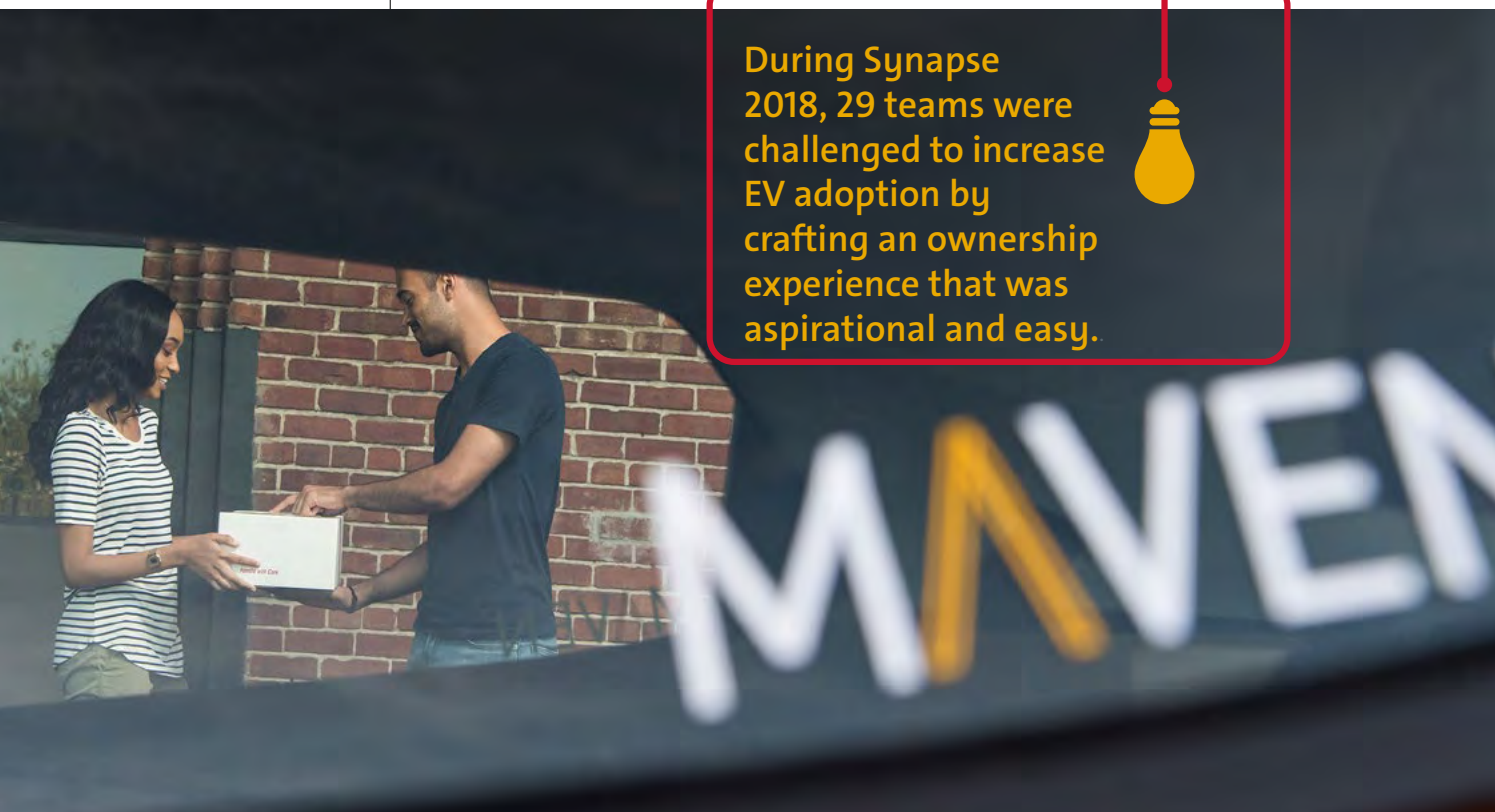
helping to eliminate the range anxiety that might hold some people back from owning an electric vehicle.

iHub also sponsors BlacktopBuild, a hackathon that gives college students the opportunity to work on real business issues. During the second annual BlacktopBuild, held at the University of California Berkeley, students used machine learning to improve user experience for vehicle infotainment systems.



Chevrolet Bolt

During Synapse 2018, 29 teams were challenged to increase EV adoption by crafting an ownership experience that was aspirational and easy.





CUSTOMERS: Act

Celebrate Employees

Who Go the Extra Mile

The Mark of Customer Excellence (MoCE) award embodies our commitment to putting the customer at the center of everything we do, recognizing those who go above and beyond to live our cultural values and create amazing experiences for our customers. The award honors moments that can happen at any time, from in the office at work on a project to out in one's community. The award is open to all GM employees in the U.S., Canada and Mexico, and awards are given each quarter at GM's Quarterly Earnings Broadcast. A few recent MoCE honorees include:



- The team that designed and engineered the GMC MultiPro™ Tailgate. The idea to create an endgate that folded in half for easier access to the pickup box originated in 2011. The effort was shelved at the time, but the team's desire to innovate continued. The team held a Customer Innovation Clinic to gather input. The MultiPro Tailgate now comes to market on the GMC Sierra as the most innovative pickup tailgate ever, with six functions to accommodate varied customer needs. It has undergone more testing and validation than any other tailgate in GM history.



- A cross-functional team that helped lifelong Chevrolet customer Ken Paul regain his freedom. After Paul lost both of his arms in a farming accident, he returned to farming by adapting to prosthetic arms. However, he was not granted a driver's license due to his inability to turn the steering wheel 360 degrees. GM team members, including Paul's local Chevy dealer, a district sales manager, brand managers and Canada and U.S. engineering teams, learned about Paul's story and took action. After extensive collaboration, the engineering team was able to specially calibrate a steering system solution to Paul's needs, allowing him to earn his driver's license.



- Hank Vandeventer, district manager of aftersales in the South Central Region, who is a one-man advocate for GM's safety culture. While traveling in Texas, Vandeventer noticed a Pontiac Vibe parked outside a fast-food restaurant. He went inside and asked who the vehicle's owner was and explained to the owner the importance of having a recall completed. A month later, Vandeventer personally followed up with the customer about the recall and arranged a loaner vehicle for the customer while her vehicle was being serviced. In Vandeventer's words, "It only takes a few minutes to check a recall. Why not do it? It might just save somebody's life in the long run."



The Mark of Customer Excellence Award embodies our commitment to putting the customer at the center of everything we do



## A New Engineer Puts

### Quality First



Mike Faucett, a four-year GM veteran, was a key contributor in achieving best in industry quality levels based on GM's Body Engineering external quality benchmark. He shares his insights into his team's work and what it's like to be part of this success so early in his career.



### What is Body Engineering?

It's the engineering group that handles the exterior components, closures and structure of a vehicle. We take a styled surface from the studio and bring it to production at a GM assembly plant. This involves engineering the detailed parts and following up on concerns regarding design and manufacturing, then working through any issues at launch or current production.

### How do you incorporate quality as part of your role?

As a design release engineer (DRE), I spend a lot of time focusing on reducing the opportunity for defects, which translates directly to warranty reduction. I read customer and dealership complaints, analyze returned warranty parts to determine the failure modes and then follow up with our glass suppliers to resolve the issues and prevent future defects.

### How did your team contribute to Body Engineering achieving best in industry quality?

Working as One Team was a huge part of achieving best in industry quality levels. It all starts with our engineers holding firm to our best practices in the earliest stages of vehicle development. In the production phase, Supplier Quality provides a ton of support. They work with us and our suppliers to help contain spills and prevent future issues.

My fellow DREs work tirelessly to identify warranty issues or customer complaints on our vehicles, and work with the supply base to ensure that we prevent any defects from recurring. Finally, the plant assembles the parts into a vehicle, a critical stage in terms of quality.

### As an entry-level engineer, how does it feel to be part of this huge win?

It's awesome to know that our area is providing the best quality to our customers. I'm proud of what our team has accomplished, and I'm targeting for us to have a repeat next year.

 CUSTOMERS: Act



**Help Customers Get**

**Home Safely**

We're always looking out for our customers. That's why Shanghai OnStar has joined forces with external partners to offer one-click service for OnStar members across China who need a designated driver.

The service is available in Cadillac, Buick and Chevrolet vehicles equipped with OnStar. Members can simply use the Shanghai OnStar mobile app to activate the service. They can reimburse drivers directly after their rides and can also use the service to call drivers for friends.

**MY GM REWARDS TOPS 1 MILLION USERS**



More than 1 million Chevrolet, GMC, Buick and Cadillac drivers have signed up for My GM Rewards, the automotive industry's first comprehensive loyalty rewards program. Once enrolled, members can earn and redeem points on eligible purchases, including new GM vehicles, parts, accessories, paid dealer services, OnStar and Connected Services plans and more.

Chevrolet customers in China, meanwhile, can benefit from the Chevrolet U-CLUB, which includes comprehensive repair and maintenance service and individualized offerings such as activities for families and sports enthusiasts. We also recently extended aftersales service hours to 9 p.m. on Saturday nights exclusively for U-CLUB members to better fit owners' schedules. Since the Chevrolet U-CLUB was established in 2014, more than 2 million Chevy owners have joined.

# SAFETY

ASPIRATION: Zero Crashes and Zero Workplace Injuries



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What We Aspire To:  
Zero Crashes and  
Zero Workplace Injuries

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Our Management  
Approach to Safety

 **45**

What We Measure

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Actions We're Taking

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- 49 Expand Safety and Communications Technology in Cadillac Vehicles
- 50 Create a Culture of Safety at Work
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# What We **ASPIRE** To:



## Zero Crashes and Zero Workplace Injuries

GM's top priority is safety — in the vehicle and in the workplace. The two are inherently linked. More than 1 million people are killed in traffic crashes around the world every year. GM believes that number should be zero. Similarly, we aspire to be a workplace with zero injuries among employees, contractors, suppliers and other individuals in our facilities around the world. A world with zero crashes and zero injuries is an ambitious vision. We see, however, the potential for that vision to become reality by holding each other accountable for personal safety and by capitalizing on the promise of autonomous, connected vehicles that get drivers to their destinations safely, every single time.

# Our MANAGEMENT Approach to Safety



Our approach to safety is seamless and comprehensive: The best way to produce safe vehicles, free of defects, is in safe workplaces where employees are accountable for their personal safety and the safety of those around them. Across the company, we have made both workplace and product safety everyone's responsibility — from our vehicles to corporate hallways to factory floors. Today, our decision-making process for safety issues includes executives at the highest levels of the company and engaged employees at every level to identify potential safety issues.

 TOPICS DISCUSSED IN THIS SECTION

Safety Governance

Autonomous Technology Development

Workplace Safety

Global Workplace Safety Strategy

### Safety Governance

Our Vice President of Global Vehicle Safety, in addition to leading our product safety organization, is accountable 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.

Our Global Product Development organization includes a robust team of internal product investigators in North America who help identify

and quickly resolve potential vehicle safety issues and safety forensic engineers who are responsible for early identification of potential vehicle safety issues. Meanwhile, Global Vehicle Engineering improves cross-system integration and addresses functional safety and compliance in the vehicle development process. We also employ a data analytics team to identify potential vehicle safety issues. This team merges multiple inputs — such as Speak Up For Safety (SUFSS) submissions and dealer




**SAFETY: Manage**


(Cont.)

service records — to build a unique, comprehensive database. Statistical analysis and modeling identify potential issues early by linking perceived disparate issues.

Programs are in place to support a culture where safety is everyone's responsibility. The Employee Safety Concerns Process provides a structure for employees at manufacturing sites to report potential workplace safety issues. Our SUFS program, meanwhile, 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 SUFS website, submitters can report any potential vehicle safety risks and suggest improvements. From there, our dedicated safety team funnels employee concerns to the appropriate departments. Individuals track their submission through the review and decision process so they can learn more about the process and understand the status of their concern. Since the program's inception, more than 25,420 concerns and/or suggestions have been logged globally by employees and dealers. To reinforce a sense of personal accountability, safety is a part of employees' performance criteria for compensation.

Externally, GM maintains an open dialogue with the National Highway Traffic Safety Administration (NHTSA), including monthly meetings with senior agency officials, with expedited discussions as needed, covering field investigations, safety recalls and other issues. GM also participates in periodic meetings with NHTSA and other stakeholders to advance safety discussions that benefit the industry as a whole.

### **Autonomous Technology Development**

An aspect of vehicle safety that is quickly growing in importance is the safety of advanced driver assistance systems and autonomous technology in vehicles, a critical part of our vision to achieve zero

crashes. While fully autonomous vehicles — those requiring no input from a human driver — are not yet in use on public roads, advanced safety innovations available today represent first steps in the road to autonomous driving. Lane Departure Warning can alert drivers when they cross a detected lane marker when driving. Lane Keep Assist takes this a step further by providing gentle steering wheel turns to help keep a vehicle from inadvertently leaving its lane. Through small changes such as these, vehicles are increasingly aiding with routine driving tasks. This gradual transition will not only improve safety — we believe it will increase drivers' comfort with self-driving technology.

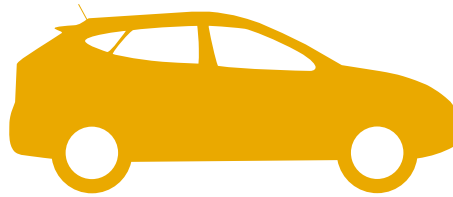
At the same time, GM is aware of the need to increase public awareness of the risks associated with drivers becoming overly reliant on today's vehicles to do the job of keeping them safe. Feature enhancements and increasingly sophisticated safety technologies are no replacement for safe, smart driving behavior. We continue to invest in partnerships and initiatives to decrease driver distraction and educate drivers, especially new drivers, on the many hazards that remain when they get behind the wheel.

**Lane Departure Warning can alert drivers when they cross a detected lane marker when driving**





**Our Workplace  
Safety Vision:**  
Live Values that  
Return People Home Safely.  
Every Person. Every Site.  
Every Day.



***Workplace Safety***

Our workplace safety vision is to “Live Values that Return People Home Safely. Every Person. Every Site. Every Day.” This vision is guided by our safety policy, which applies to all employees and others working at our sites, including consultants, agents, sales representatives, distributors, independent contractors, third-party suppliers who work on GM premises and contract workers when they perform work for GM.



Like product safety, we manage workplace safety at the highest levels through Monthly Operating Reviews with global functional senior leaders, including the CEO and the Global Safety Leadership Council (GSLC), which is comprised of over 20 senior global manufacturing leaders. The GSLC determines strategic global safety direction and approves all workplace safety initiatives, which are the responsibility of the GM Vice President of Workplace Safety. This senior management member also provides a quarterly update on the safety performance of the company to the GM Board of Directors (BOD). Enterprise workplace safety risks and control initiatives are reviewed on an annual basis, and updates are provided to the BOD Risk Committee on a quarterly basis.




**SAFETY: Manage**


### ***Global Workplace Safety Strategy***

In 2018, we developed a comprehensive Global Workplace Safety strategy to highlight the five key focus dimensions that will enable us to achieve our vision of zero injuries. Each year, we will establish new initiatives under each of the focus areas to make progress toward this vision.

Those dimensions are:

- **Enterprise Safety Culture (Culture Dimension)**

GM believes safety begins with a decision. Our vision is for each person to decide to keep themselves and their team members safe. In 2018, the “invisible hand” concept was introduced to spark discussion about why people choose to take unwanted risks. This concept acknowledges the performance pressure associated with natural human instinct to work faster and more efficiently — often at the expense of working safely. To further develop a strong safety culture, we surveyed over a dozen companies who provide culture change support and identified a partner that will help us on this journey in 2019.



Senior leadership plays an important role in instilling safety throughout the GM culture. Workplace safety is a criterion for senior leadership performance reviews. We also initiated the process, which will be implemented in 2019, for tying safety performance to executive compensation. A framework was created to link lagging and leading metrics to drive improvement in corporatewide safety culture. Lagging metrics will incorporate performance in fatalities, permanent disabling injuries and lost work injuries. Leading indicators will be developed by each function and will drive proactive initiatives to improve GM’s safety culture.

As part of our end-to-end approach to safety, GM engages leaders in every function to demonstrate safe behaviors for their teams and conduct risk assessments to address potential hazards. Global Safety Week, as well as other events year-round, help leaders educate employees on safety topics.

**SAFETY: Manage**

(Cont.)

• **Hazard and Risk Identification (Knowledge Dimension)**

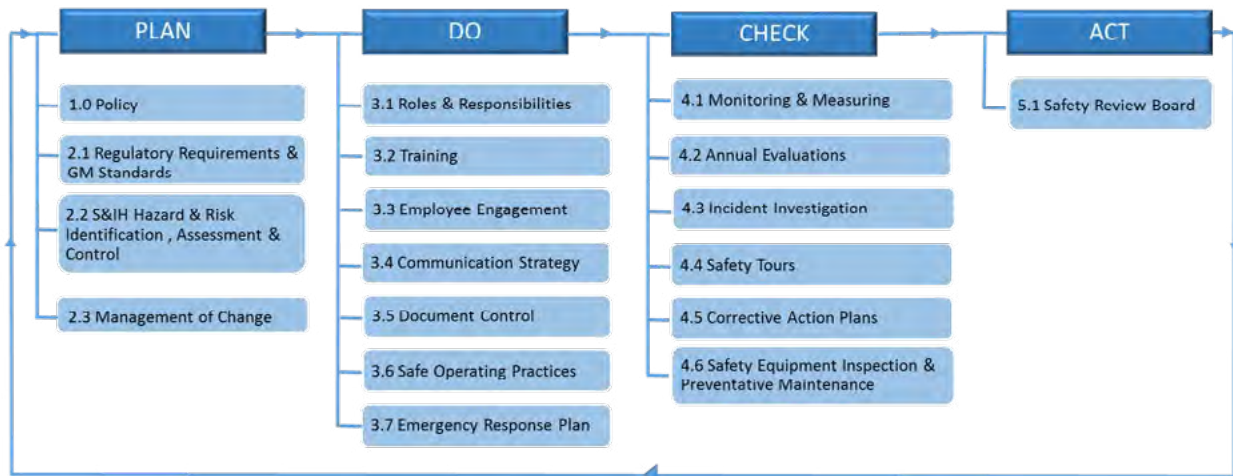
GM's vision is for every person, at every site, to recognize hazards, understand risk levels and feel empowered to address safety concerns. Last year, more than 40,000 people were trained in basic hazard recognition, and over 10,000 leaders were trained in GM's risk assessment tools. Hazard recognition also was included in our training programs for new hire and summer intern programs.

Hazards identified are captured through our reporting systems, which include our employee safety concern process, safety tours or safety conversations. During 2018, 3,379 unsafe acts and conditions were reported and addressed. During Global Safety Week, the South America Manufacturing Leadership challenged all employees to identify new hazards, and over 3,000 potentially unsafe conditions were identified.

• **Workplace Safety System Maturity (Systems Dimension)**

Our global safety management system, Workplace Safety System (WSS), drives continuous improvement in all five GWS dimensions. The system uses global procedures, performance standards and technical standards to reinforce goals and objectives and behavioral expectations for safety.

The WSS includes a set of tools, known as elements, designed to drive continuous improvement in safety through the Plan-Do-Check-Act (PDCA) cycle. Using the PDCA cycle changes our mindset from “tell me what you want me to get done” to “I know what I need to do, and I know how to improve upon it,” which reinforces behaviors that change the culture. The five main components of the PDCA cycle are broken down into 18 individual elements.





**We aspire to do business with companies that share the same commitment to returning people home safely**

(Cont.)

Performance standards establish the minimum global requirements to manage specific hazards common to GM sites. A subset of performance standards are technical standards, which provide additional technical details for effective implementation of a performance standard. Both performance and technical standards are mandatory for all GM operating units.

Our performance and technical standards include, for example, standards to manage confined space entries, electrical safety, hazardous energy control, fall hazards and pedestrian and mobile vehicle interaction. Some of these standards are also focused on having healthy working environments for our employees, like ergonomic programs, noise control and indoor air quality programs.

Ergonomically correct workspaces are a priority at manufacturing facilities around the world. All workspaces at manufacturing facilities must meet ergonomic criteria, and job positions are evaluated using screening tools like Risk Factor Checklist, Global Ergonomic Screening Tool, National Institute for Occupational Safety and Health Lifting Equation and the Occupational Repetitive Action tool.

During 2018, our operational units matured the implementation of the WSS. We also created and operationalized a validation process to identify systemic opportunities and developed gap closure plans to promote continuous improvement of the process.

- **Data-Driven Decisions (Data Dimension)**

Accessible, easy-to-analyze global safety data promotes data-driven decisions. In 2018, GM launched a new Safety Analytics Dashboard to access global performance data for analysis, replacing a patchwork of disconnected data collection systems. In addition, a new data management system was developed for reporting all safety information, including predictive leading metrics (audit, inspection and risk mitigation data).

- **Safety Contract Management (Risk Mitigation Dimension)**

We aspire to do business with companies that share the same commitment to returning people home safely. Historically, most fatalities and severe injuries suffered on GM sites have involved contractors. In 2018, GM expanded the scope of safety contract management to include all service providers, not just construction. We participated in a safety contract management key contract symposium to directly engage contractors in our safety requirements. We also established a cross-functional safety council with major contractors on the purchasing team.

# What We MEASURE



Cadillac CTS

## VEHICLE SAFETY

### Insurance Institute for Highway Safety (IIHS)

**43%**

Fewer front-to-rear crashes of all severities in GM vehicles with autobrake and forward collision warning, compared to vehicles without these features

**64%**

Fewer front-to-rear crashes with injuries

**10,000+**

Tests conducted per year at GM's Vehicle Safety and Crashworthiness Lab

### New Car Assessment Program Top Performing Models

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

**73%**

United States

**83%**

China

**100%**

Australasia

**75%**

South Korea

**50%**

Asean Region

### Global Deployment of Advanced Safety Technologies

(Number of models with these technologies available or as standard equipment out of 66 total models)

**49**

Forward Collision Alert

**24**

Adaptive Cruise Control

**23**

Safety Alert Seat

**17**

Front Pedestrian Braking

**32**

Forward or Low-Speed Forward Automatic Braking

**16**

Lane Departure Warning

**44**

Side Blind Zone Alert

**36**

Rear Cross-Traffic Alert

**33**

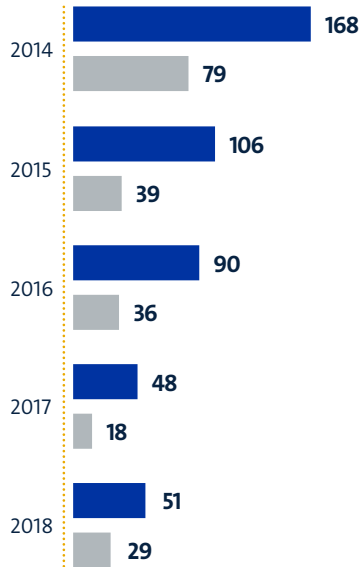
Lane Keep Assist with Lane Departure Warning

**22**

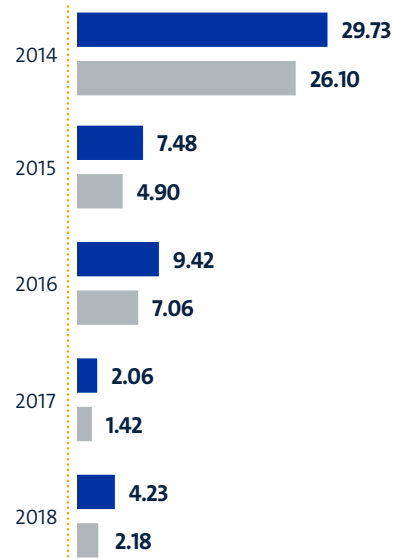
Surround Vision

VEHICLE SAFETY

**GM Safety & Noncompliance Recalls**  
(number of recalls)



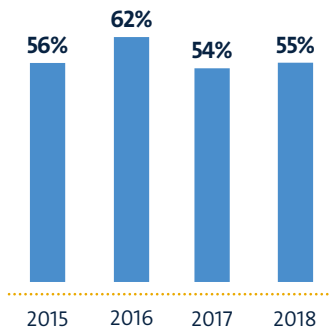
**GM Safety & Noncompliance Recalls**  
(vehicle volume in millions)



● Global ● North America

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 are also seeing issues related to current models surface more quickly, thereby resulting in smaller population per recall. Half of the recalls initiated in 2018 involved vehicle populations of fewer than 10,000 vehicles.

**Proportion of U.S. Recalls Involving Fewer Than 10,000 Vehicles**



**Speak Up For Safety Submissions**  
(Total/CY2018)

**25,420**

Total since inception

**5,333**

CY2018



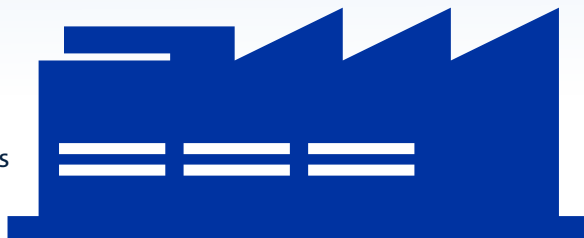
## WORKPLACE SAFETY

0

Workplace fatalities in 2018

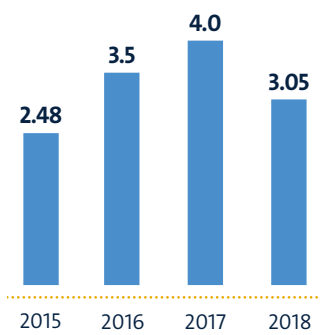
22%

Decrease in workplace injuries over past two years



### Lost Time Injury Rate – Employees

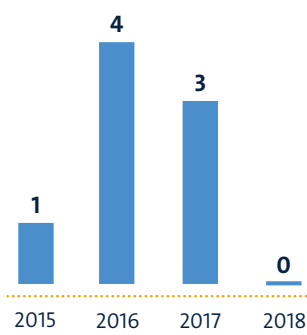
Number of lost work day injuries per 1,000,000 work hours.



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.

### Fatalities

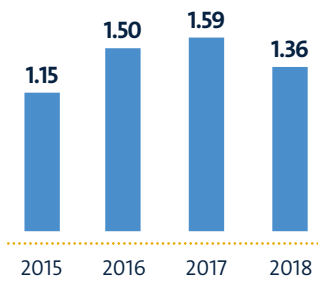
A work-related incident resulting in death.



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

### Recordable Incident Rate

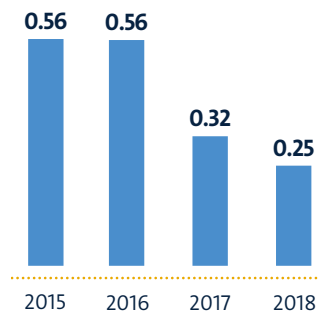
Number of incidents that resulted in injuries or illnesses that required medical treatment beyond simple first aid treatment per 200,000 work hours.



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

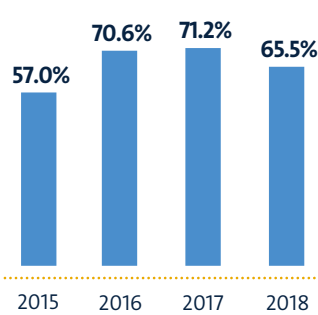
### Lost Time Injury Rate – Contractors

Number of lost work day injuries per 1,000,000 work hours.



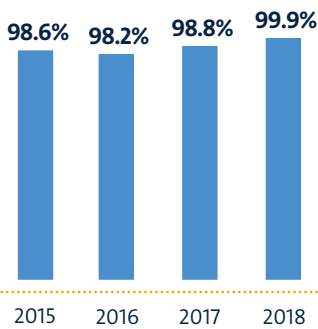
### Sentinel Events Proactive

Percent of Sentinel Events (any event with the potential to generate a serious injury or fatality) detected as Unsafe Acts/Conditions and that did not result in an incident.



### Global Calls to Action Closed on Time

Percent of Global Calls to Action closed on time. A Global Call to Action is a list of lessons learned and required corrective actions to be performed by each GM site globally in response to serious incidents that occurred in any GM site.



# ACTIONS We're Taking

**Validate Effectiveness of  
Advanced Safety Technologies**



Side front wheel, vehicle in motion, Brembo Auto-Dry Brakes.

Many vehicle crashes can be traced back to a specific cause. Determining what prevents crashes from happening, however, is far more difficult. New research from the Insurance Institute for Highway Safety (IIHS) hints at an answer.



IIHS examined police data on front-to-rear crashes involving model year 2013 through 2015 Buick, Cadillac, Chevrolet and GMC brands. They found that GM vehicles with autobrake and forward collision warning were involved in 43 percent fewer crashes and 64 percent fewer crashes resulting in injuries compared to the same vehicles without those features.

Forward collision warning without autobrake produced a smaller, though still significant, effect: 17 percent fewer crashes overall and 30 percent fewer crashes involving injuries. These findings suggest that GM's advanced safety innovations are successfully stopping crashes in their tracks, especially when multiple safety technologies are combined. It's a perfect example of how even incremental steps toward autonomous vehicles are already saving lives.

The results of the study also align with IIHS research of other automakers. With evidence of the effectiveness of these safety innovations growing, 20 OEMs, representing 99 percent of the U.S. auto market, have committed to making autobrake a standard feature on new passenger vehicles by 2022.



## Expand Safety and Communications

### Technology in Cadillac Vehicles

GM envisions a future where vehicles not only drive themselves, but also communicate seamlessly with other roadway users and even with infrastructure.

Cadillac is making progress toward the introduction of vehicles that are intelligent and connected by expanding Super Cruise, the world’s first true hands-free driver assistance technology for the freeway. The system uses precision LiDAR map data, GPS, a state-of-the-art driver attention system and a network of camera and radar sensors to enable hands-free driving on limited-access freeways. Super Cruise is available on the 2018 and 2019 CT6 model and will be available on all Cadillac models beginning in 2020 and other GM brands after 2020.

The system was officially introduced in China at the 2018 Asia Consumer Electronics Show and will initially be applied on the Cadillac CT6 40T Platinum prestige sedan. To ensure safe and efficient operation in China, local engineers conducted comprehensive verification of the technology. People of different ages, heights and genders were invited to test the Driver Attention System to ensure proper operation in both China and in North America. GM China is partnering with AutoNavi, a local leader in HD mapping technology, to ensure accurate and precise operation of Super Cruise in China.

Cadillac also plans to offer V2X communications in a high-volume crossover by 2023 and eventually expand the technology across Cadillac’s portfolio. Using V2X, compatible vehicles can be notified of hazardous road conditions, traffic light statuses, changing work zones and more. Its range of nearly 1,000 feet means drivers can be alerted to possible threats in time to avoid a crash.



### SUPER CRUISE

2019 Technology of the Year Award  
*Autoblog*

#1 Ranking for Automated Driving Systems  
*Consumer Reports*

Cadillac CT6



## Create a Culture of

## Safety at Work



A corporate culture that continues to grow more attuned to the critical importance of safety, combined with better implementation of performance standards, led to significant improvement in GM's safety performance in 2018. We reduced lost time injuries by 26 percent and recordable incidents by 15 percent in 2018 compared to 2017.

This performance is driven, in part, by high employee perceptions of our safety culture. In our 2018 Workplace of Choice survey, more than 90 percent of salaried employees said that they feel that workplace safety and security are important at GM, and that they feel comfortable raising and reporting product safety issues. These scores are significantly higher than Aon's global average. In addition, three-fourths of GM hourly employees have favorable perceptions of safety.

We are continuing to create a culture of safety through numerous initiatives. One of these focuses on how each team member's day is full of choices — choices that can make workplaces safer or less safe for themselves and others. To eliminate injuries and fatalities at work, we are drawing people's attention to the countless choices they make every day, asking them to choose safety at every turn, which ultimately changes behaviors.

## GM Lifesaving Rules

### WE ALWAYS:

- Use required fall hazard/prevention controls when working at heights.
- Wear seat belts.
- Ensure hazardous energies are isolated or controlled when exposed to hazardous energy or working on equipment.

### WE NEVER:

- Work on electrical equipment unless qualified and always use the appropriate protective equipment and tools.
- Never enter a confined space without following proper entry procedures.
- Never defeat, bypass, remove or render ineffective any safety device without authorization.



(Cont.)

We also have introduced the concept of the “invisible hand,” or the hidden pressure that employees may feel to take shortcuts or compromise safety on the job. This pressure may be internal or may come from real or perceived external pressures. Through small-group discussions with employees, we make it clear that our people should never compromise safety to get a job done. Instead of a hand pressuring them to work harder, team members should envision one that supports them in getting work done in a safe manner. Team members should also recognize when they may be exerting undue pressure on others, and instead find ways to encourage their colleagues to work safely.

What positive behaviors would a safety-focused invisible hand support? We articulated these through a new set of “lifesaving rules” and new guidelines regarding personal protective equipment (PPE). The six lifesaving rules were developed in response to the most common causes of fatalities experienced at GM since 2000 and are clear reminders of what we “always” do and what we “never” do.

We also established a global standard for PPE to eliminate many of the most common workplace injuries. Now, everyone who visits or works on the manufacturing floor at a GM site must wear safety glasses and substantial footwear. Bump caps are required for those who work under a vehicle, in a robot cell or on a stamping press. Additional standards address specific hazards in body, casting, stamping and construction areas.

## NEW MOBILE DEVICE POLICY

Many GM employees use mobile devices to do their jobs. But while these tools are helpful and even necessary, they can also contribute to accidents in the workplace. After reviewing the most common safety hazards at our global sites, GM leaders identified distracted walking and driving as a top culprit.

This distraction is often caused by cell phones and other mobile devices. That’s why in 2018 GM extended our prohibition on mobile device use from manufacturing sites to all GM sites globally. Now, when walking and using a mobile device at a GM site, employees must keep their eyes up and one ear free. They should not look at mobile devices or hold devices to an ear while walking. Ideally, all mobile device use should occur in a safe location, when one is not walking or in the path of others.

With this policy, one of the most comprehensive of its kind, now in effect, we encourage employees to take responsibility for mobile device safety, changing their own habits and reminding colleagues to do the same. Being smart about this daily behavior is another way we can help each other return home safe every day.

## Deliver Superior Safety in China



*Chevrolet Equinox*

### Ensuring Drivers Breathe Easy

Building safe vehicles means not only engineering for crashworthiness, but also choosing materials that promote indoor air quality. The China Automobile Health Index, sponsored by the China Automotive Engineering Research Institute (CAERI), evaluates whether materials used in vehicles contribute to a healthy driving environment. The Buick GL8 ranked first among the eight models tested by CAERI and was the only model to earn a five-star score.

GM vehicles recently released in China have been recognized for leading levels of safety. The China New Car Assessment Program (C-NCAP) named the Chevrolet Equinox SUV the 2018 Safe Car of the Year. C-NCAP, which tests vehicle safety performance, has been selecting a Safe Car of the Year from among all vehicles that received 5-Star Safety Ratings for seven years. The Equinox was chosen this year from among 24 candidates due to its outstanding crashworthiness and extensive safety features.

The China Automotive Technology & Research Center (CATARC) announced that the Buick GL6 received a maximum C-NCAP 5-Star Safety Rating. The multipurpose vehicle received a score of 56.6 based on a number of crash and impact tests, demonstrating consistent safety performance.

In addition, SAIC-GM-Wuling launched three upgraded Wuling Hong Guang models, all of which were developed with safety in mind. Before their launch, the vehicles were put through extensive safety, reliability and quality testing, such as comprehensive road testing, high and low temperature endurance testing, brake system durability testing and anticorrosion testing.

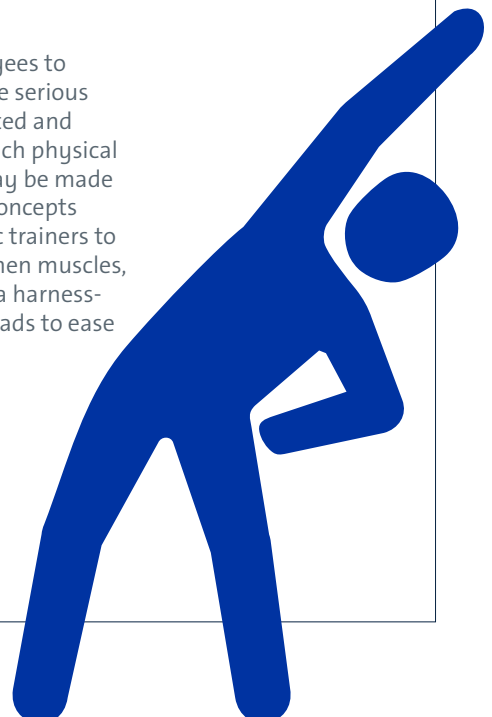
## Prevent Injuries

### Large and Small

While the first priority of our workplace safety team is to eliminate fatalities and traumatic injuries, we will only achieve true safety when we eliminate all injuries. That includes sprains and strains, which made up approximately half of all injuries in GM's North American operations in 2018. Because sprains and strains are often specific to an individual, they are not always addressable with a simple rule or a specific piece of PPE. Instead, we are working on a number of initiatives to address these types of injuries, including pilot programs that engage employees in prevention.

For example, when new products are introduced, they often come along with new processes and equipment, which can create potential for injuries. At the Oshawa Assembly Plant in

Ontario, a new process helps employees to proactively deal with soreness before serious injury occurs. Employees are evaluated and coached on different ways to approach physical tasks, and changes to equipment may be made based on employees' needs. Other concepts being piloted include on-site athletic trainers to help employees stretch and strengthen muscles, and wearable technologies, such as a harness-like exoskeleton that redistributes loads to ease strain on an operator's body.



## Unite to Celebrate Safety

For the fifth year in a row, employees across GM came together for a week to recommit to product and workplace safety. Global Safety Week 2018 focused on the GM behavior “It’s On Me,” with a special emphasis on the emotional component of safety. Programming throughout the week aimed to show the impact of safety on employees, families and customers.

The highlight of the week was an interactive broadcast, shown live across the world, during which employees heard updates on our safety progress and watched videos about GM safety heroes who are living “It’s On Me” at work every day. Employees could ask questions of leadership and make comments using our internal social media platform.

Global Safety Week also got local, with specific sites and functions coming up with events targeted to their specific culture and site needs. For example, the Talegaon facility in

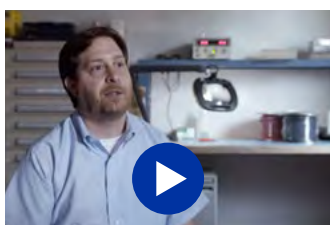
India held a lamp lighting ceremony, while teams in Mexico and Korea learned about PPE used to protect employees working at heights. Members of the GM legal staff in the U.S. banded together to form the Safety Singers, changing the lyrics to classic rock songs to focus on safety. A sample lyric, inspired by The Beatles: “What would you do if you saw something wrong? Would you speak up and say, ‘It’s On Me?’” Across GM, it’s clear that our people get by with a little help from their colleagues and friends.

GM’s dedication to safety spans divisions, borders and culture. It’s an important focus every week of the year, but each August, we take a special week to reinforce the importance of both workplace and vehicle safety. During Global Safety Week 2018, we honored Safety Heroes who took “It’s On Me” to heart and kept themselves and others safe. They include:



**Ashley Gotch**, a GMS Coach at the Orion Assembly Plant and member of UAW 5960 who works with members and leaders to help them better understand safe work practices. Ashley leads weekly safety observation tours and helps everyone she works with stay safer at the plant.

**Michael Zhou**, a vehicle coordinator for Engineering Laboratories in Shanghai, who noticed a potentially dangerous situation for pedestrians at the GM Campus. After dropping off passengers, our company shuttle buses would immediately back up to park and risked hitting people walking behind them. Michael raised this issue with the site’s Committee for Pedestrian and In-plant Vehicle Safety and got input from bus drivers and passengers, leading to a new system that provides a safer traffic flow.



**Chuck Green**, Driver Performance and Research, Global Vehicle Safety, who helped bring game-changing technology to the routine tasks of backing up a vehicle and driving on the freeway. He helped develop the rear vision camera technology that is now helping millions of GM customers back up safely. He also worked on the driver interface for Super Cruise, the world’s first true hands-free driving system for the freeway. Chuck’s contributions to Super Cruise resulted in the addition of the color light bar on the steering wheel as well as the escalation protocol that assists drivers in maintaining their supervision of driving and alerts them when they need to retake control of the wheel. Chuck has made “Innovate Now” a focus of his work, resulting in vehicles equipped with technology that elevates the driving experience and helps keep drivers active and aware.

**Eric Medri**, Group Lead/Senior Engineer, Paint Manufacturing Engineering and **Nick Rae**, Lead Process Engineer, Paint, Oshawa Assembly, who caught and reported a problem in a vendor’s piece of equipment that could have caught fire. The equipment, which was used to test a new paint cleaning material, had been used numerous times at other GM and OEM sites. Eric and Nick took responsibility for the vendor’s equipment and did not use it until the vendor completed remediation to make it safe.



## Minimize Distracted Driving Through Partnerships



About  
**1.25 million**  
people are killed and millions  
more are injured on the world's  
roadways each year

About 1.25 million people are killed and millions more are injured on the world's roadways each year, according to the World Health Organization. Distracted driving is a preventable contributor to this toll. As we work toward our vision of a future with zero crashes, we are always looking for more ways that General Motors can collaborate with stakeholders who are committed to creating safe roads for drivers.

We support education efforts and industry partnerships that increase driver awareness and produce measurable road safety results. Two major focus areas of our programs are research that involves enhancing awareness of distracted driving and positively changing driver behavior to help minimize the risks from distraction. Current partnerships include:

- DoSomething.org, with whom we partnered to launch Crash Text Dummy, a social change campaign designed to decrease the number of crashes related to texting and driving. As part of the campaign, 56,000 young people shared an interactive text-message guide with their friends that coached them on how to respond when they witnessed their family or friends texting and driving. The second campaign of the partnership is Brake It Down, designed to rally young people to share antispeeding tactics with friends.
- The PEERS Foundation, for whom we upgraded the Augmented Reality Distracted Driving Education Simulator (ARDDES). ARDDES uses augmented reality in a real vehicle to simulate the driving experience. Using this technology, PEERS conducted a tour of 50 high schools in southeastern Michigan to increase awareness, knowledge and skills with vehicle and road safety issues around distracted driving.
- Academic institutions, such as the Virginia Tech Transportation Institute and the University of Michigan Transportation Research Institute, who we work with to increase understanding of driver behaviors and how to effectively measure distraction in a lab environment. The results of these collaborations have informed GM's safety policies, infotainment and semiautonomous safety innovations. Virginia Tech assisted in the development of GM's new driver distraction lab, which is currently being used to develop and validate the next generation of infotainment features.

*"GM is constantly working to help drivers reduce the risks of distractions," says Daniel Glaser, GM Driver Workload Technical Lead and Senior Driver Performance Researcher. "We'll continue to support organizations and collaborations that share our goal of minimizing — and ultimately eliminating — distraction-related crashes."*

### MAKE BUCKLING UP SECOND NATURE

A new vehicle feature is giving teen drivers a nudge in the safe direction. Buckle to Drive technology, now embedded in Chevrolet's Teen Driver system, prevents the driver from shifting the vehicle out of park for up to 20 seconds if the driver's seat belt is not buckled. When pressing the brake pedal to shift, the driver will hear an audible alert and see a message in the driver information center that reads "Buckle seat belt to shift." A study conducted by the Insurance Institute of Highway Safety found that the feature increased the seat belt use of adults who occasionally use a seat belt by 16 percent, compared to the standard seat belt reminder in similar Chevrolet vehicles.

 SAFETY: Act



*“Today’s vehicles offer a range of active safety technologies that help drivers stay more aware of their surroundings. But we know the vehicle is only one element. Chevy’s Call Me Out app gives drivers another great tool to reinforce good driving behaviors.”*

- Tricia Morrow, Safety Engineer, Chevrolet

## Use Positive Peer Pressure to Change Behavior

According to a recent Research Now survey, 84 percent of people admit that distracted driving while handling a phone is dangerous. Yet 90 percent of drivers have engaged in the practice. Driven to change this behavior, Chevrolet hosted a hackathon where teams of young people were challenged to propose ways to reduce distracted driving.

The winning idea was a smartphone app called Call Me Out. Recently launched by Chevrolet and available to anyone with an Android phone, the app reminds new and experienced drivers to keep their eyes on the road and put their phones down while they are driving. Users are encouraged to invite friends and family to “call me out” and record a positive message to remind them to keep their hands off their phones and on the wheel.

The app uses the phone’s accelerometer and GPS to detect when the phone is physically picked up while traveling at speeds above 5 mph and plays recorded, personalized messages from friends or family. It also includes gamification, featuring a scoreboard and rankings. The less a phone is handled while driving, the higher the score on the leaderboard.

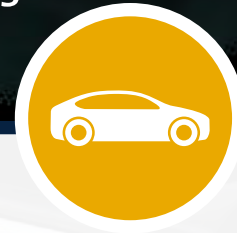


## HONOR GM LEADER FOR RAISING SAFETY AWARENESS

After Steve Kiefer’s son Mitchel was killed by a distracted driver, Kiefer began a quest to end distracted driving. Kiefer, GM’s Senior Vice President of Global Purchasing and Supply Chain, established the Kiefer Foundation, which has raised more than \$1 million to create awareness of distracted driving’s dangers. The Foundation helped fund new highway cable guard rails in Detroit and has sponsored more than 100 events at schools and community functions. In honor of his potentially life-saving contributions, Kiefer was honored in 2018 with a Distinguished Service Citation by the Automotive Hall of Fame.

# PRODUCTS

ASPIRATION: Zero Emissions



 **57**  
What We Aspire To:  
Zero Emissions

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Our Management  
Approach to Products

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# What We **ASPIRE** To:



*Chevrolet Bolt*

## Zero Emissions

The CO<sub>2</sub> emissions of our global vehicle fleet represent 77 percent of our carbon footprint today. We aim to take that percentage to zero so that our children will inherit a healthier planet. Our journey to zero emissions entails a commitment to develop and deploy advanced technologies and to significantly enhance traditional ones. In the process, we help our customers save money over the life of their vehicle purchase by using less fuel. We also look to ensure our long-term business success by complying with aggressive fuel economy and carbon-emissions regulations in markets around the world.

# Our MANAGEMENT Approach to Products



*Chevrolet Bolt with Cruise Automation*

GM is committed to a future with zero emissions, and electrification is the key to making that aspiration a reality. As we advance electric vehicle (EV) affordability and range, we believe the tipping point for mainstream EV adoption is approaching. We're committed to leading this charge with a mission to deliver desirable, attainable and profitable vehicles with over 300 miles of range.

That commitment is seen in the Chevrolet Bolt EV, which is capable of driving an EPA-estimated 238 miles on a single charge and is sold at an affordable price. But the Chevrolet Bolt EV is more than just a car. It's a platform that has helped us see into the future and is informing the development of new generations of EVs.

## TOPICS DISCUSSED IN THIS SECTION

Growing the EV Market and Charging Infrastructure

Linking Electrification and Autonomous Technologies

Improving Conventional Vehicle Efficiency

Regulatory Engagement

Global Fuel Economy and Emissions Regulations

These new vehicles will be built on an all-new modular EV platform with agile battery technology. This will allow us to create a building block approach that meets changing customer demands and supports multiple drive configurations across geographic regions at lower costs. That's important in driving towards a future that is all-electric and profitable.

Our commitment to electric and autonomous vehicle programs is accelerating, and we plan to double

the resources allocated to these programs in the next two years. Continued work rests upon 20 years of electrification knowledge and experience and the investment of billions in research and development. We are supporting this transition by shifting approximately 75 percent of our 4,000-person Global Propulsion Systems engineering workforce from internal combustion engines to alternative or electrified propulsion. We also benefit from one of the largest battery development labs in




**PRODUCTS: Manage**


Chevrolet Bolt

the world, as well as our own battery manufacturing facilities. These capabilities are enabling us to explore even more ways to design batteries for longevity and reuse.

Fuel cell technology remains a component of our overall electrification strategy. It offers a solution that can scale to larger vehicles, such as trucks that have heavy payload requirements and operate over longer distances. GM has worked on fuel cells since their inception more than 50 years ago, and today is among the patent leaders in the field.

As we develop electric vehicles, we are mindful of the raw materials necessary to support their deployment on a commercial scale. As with all raw material inputs for our vehicles, some of these materials involve inherently higher risks, such as cost, supply availability and reputational risks. The identification of these risks is part of our product development process, and we work to reduce these risks through a variety of methods, including re-engineering of components, supplier diversification, and reuse and recycling efforts.

### ***Growing the EV Market and Charging Infrastructure***

Creating a zero-emissions future requires accelerating acceptance of electric vehicles for everyday use. In particular, our commitment to electrification extends beyond vehicles to include the development of a national EV charging infrastructure, the lack of which is a significant customer pain point today. For the past decade, GM has been driving partnerships and collaborative efforts across a vast network of stakeholders to help stimulate the EV market. These efforts include promoting and supporting public policy enablers for EVs, harmonized industry standards, advocacy for supportive state policies, utility engagement, and sustainable infrastructure solutions. As an example, we have worked with more than 100 partners over the past decade to promote EV charging infrastructure. We are also increasing consumer awareness of the benefits of EVs by leveraging the Bolt EV in our Maven ride-sharing programs and investing in marketing and advertising in support of the Bolt EV. GM is committed to playing a constant and leading role in encouraging all stakeholders to do their part to energize the EV market.

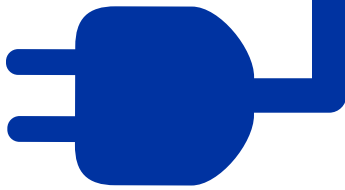
We have worked  
with more than  
**100**  
partners over the past  
decade to promote  
EV charging infrastructure





*Chevrolet Bolt with Cruise Automation*

We believe  
**ALL**  
AVs must  
be EVs



***Linking Electrification and Autonomous Technologies***

In tandem with increased electrification of vehicles is the introduction of cars with autonomous capabilities. Our strategies for these two technologies are inextricably linked, starting with our belief that all AVs must be EVs. From an engineering standpoint, autonomous technology can be integrated into an EV more easily than in a gas-powered or hybrid vehicle. Advanced automation will enable mobility for more people. And, autonomous vehicles that are electric and connected will offset potential issues should more vehicles be on the road for some period of time. Deploying the two technologies on new vehicles will increase acceptance of both electrification and automation—and help GM make progress toward our goals of zero crashes, zero emissions and zero congestion all at once.

***Improving Conventional Vehicle Efficiency***

EVs are GM’s future. As we move closer to our vision of an all-electric portfolio, we also are committed in the nearer term to improving the efficiency of vehicles that rely on the internal combustion engine. Our Efficient Fundamentals strategy

supports this effort through continual improvements in vehicle engine and transmission efficiency, and vehicle weight. These improvements eliminate excess material use in manufacturing, while reducing fuel use and costs for customers.

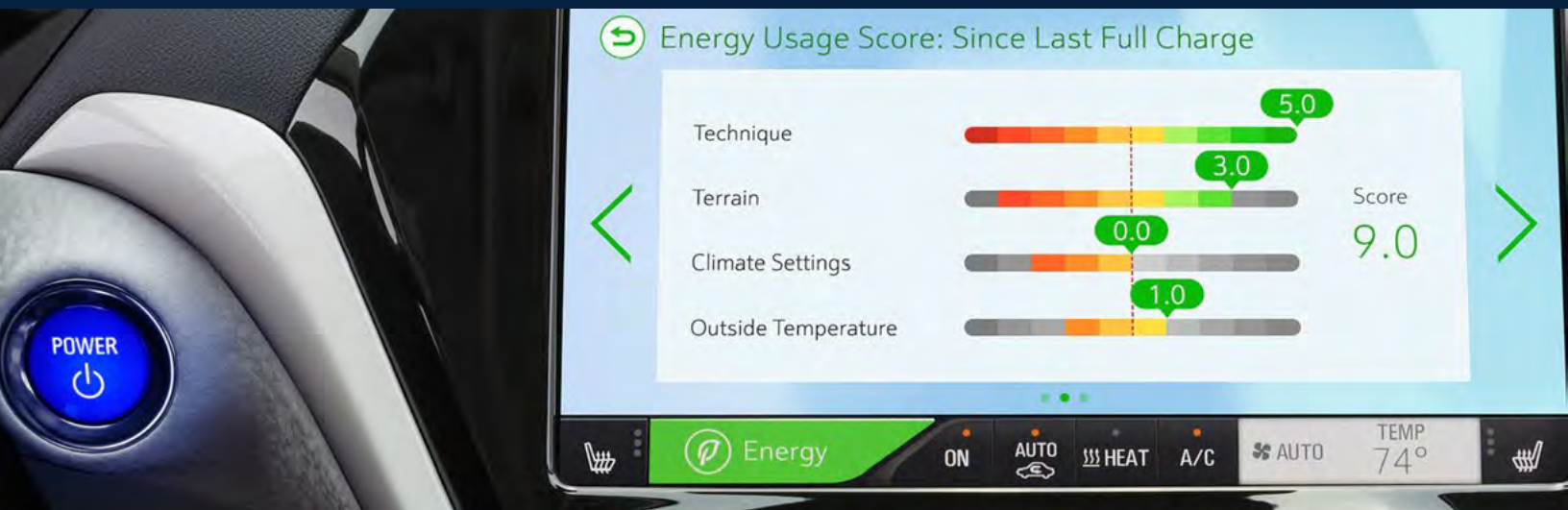
A continued focus on Efficient Fundamentals is especially important during times of sustained lower fuel prices, which change the dynamics of consumer purchasing behavior. During such times, it can be more challenging to increase sales of fuel-efficient models and gain broad market acceptance of higher-cost, advanced fuel-saving technologies such as EVs. Lower gasoline prices also translate into a longer payback period for customers who often have paid a premium for advanced technologies. 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, and GM is dedicated to making new levels of efficiency possible for even the largest conventional vehicles.

***Regulatory Engagement***

On a global basis, fuel economy and GHG emissions remain top-of-mind priorities for the transportation sector and apply to all GM products globally. Emission requirements have become more stringent as a result of lower emissions standards and new on-board diagnostic requirements, which have come into force in many markets around the world, driven by policy requirements such as air quality, energy security and climate change.

The same transformative changes we’re responding to as a company also have implications for regulations like the Corporate Average Fuel Economy (CAFE) standards in the United States. For example, when the current CAFE standards were finalized in 2012, shared mobility was in its earliest stages, and autonomous vehicles did not even exist. We want

 PRODUCTS: Manage



to be sure that the regulations accurately account for the current and likely future state of our industry. In addition, we have recommended that EV incentives continue and that federal regulations be harmonized between NHTSA and the EPA, as we work toward a single national standard with all stakeholders, including California. Common standards will allow us to advance innovation today and better prepare for the future.

In this spirit, we have called for a U.S. National Zero Emission Vehicle (NZEV) program to help the U.S. move faster to an all-electric, zero-emissions future. We believe that the most effective way to attain this goal is with an NZEV program based on the existing ZEV framework, supported by complementary policies. Read more on page 66.

**Global Fuel Economy and Emissions Regulations**

The most effective path toward that future is regulation with one set of standards that enables us to optimize innovation efforts. Regulation also should factor in industry developments that have occurred since the policy went into effect, namely autonomous EVs and the advent of new business models that move away from the concept of one vehicle, one owner. Because broad consumer acceptance of EVs is critical, we also support continued incentives to make EVs more affordable for more customers.

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 translate to another. Though harmonized standards among countries are in the best interests of our customers and the environment, we realize development and acceptance can 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.

China implemented the China 5 emission standard nationwide in 2017, which is more stringent than the previous program at every level. The next round of standards, known as China 6, is expected to roll out in some cities as early as 2019. China 6 combines elements of both



**Common standards  
will allow us to  
advance innovation  
today and better  
prepare for the future**

 PRODUCTS: Manage



Chevrolet Bolt

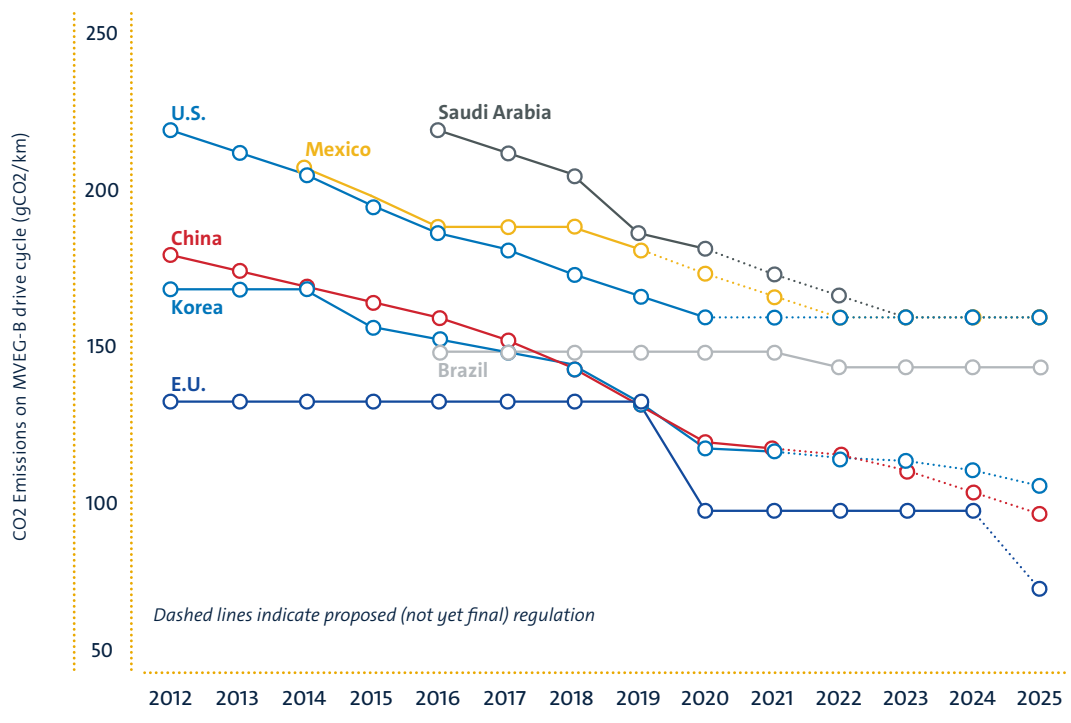
(Cont.)

European and U.S. standards, including stronger emission requirements and extended time and mileage periods over which manufacturers are responsible for a vehicle's emission performance. We welcomed these changes—in fact, GM gave input as the new standards were being drafted, sharing best practices from our experiences in North America. Another important regulation in China is the New Energy Vehicle (NEV) mandate, which allows manufacturers of passenger cars to earn credits for producing a certain volume of hybrid, battery electric and fuel cell vehicles. This policy, combined with consumer subsidies for purchasing NEVs, has made China an important market for our electrification solutions.

We are also 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.

Within GM, we have institutionalized extensive governance processes that predict, plan, measure and assess our fleet's fuel economy and emissions performance according to established government test procedures on a dynamic and country-by-country basis. We dedicate significant resources and use a 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.

**Global Fuel Economy / CO2 Outlook**



# What We MEASURE



*Cadillac's first fully-electric EV*

## RESEARCH & DEVELOPMENT

**\$28 million**

Expansion to Global Technical Center battery lab

**2x**

Engineering resources allocated to EV and AV programs in next two years

## EV PORTFOLIO

**61,473**

Global EV volume

**289,216**

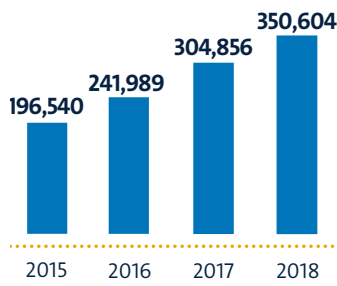
Metric tons of CO2 emissions avoided

**707 million**

Gasoline miles displaced

## U.S. ELECTRIFIED VEHICLES

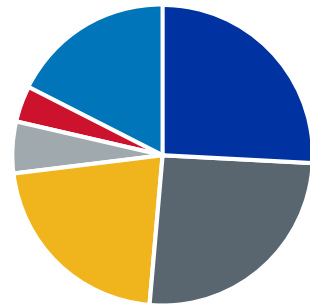
(Vehicles on the road in the U.S. with some form of electrification)



There is acceleration in the uptake of electrified vehicles.

## GLOBAL EV PORTFOLIO

2018 Global Sales of Electrified Vehicles



- Baojun E100
- Chevrolet Bolt EV
- Chevrolet Volt
- Chevrolet Silverado with eAssist
- Chevrolet Malibu Hybrid
- Other:
  - Buick LaCrosse with eAssist
  - GMC Sierra with eAssist
  - Buick Velite 5
  - Buick LaCrosse HEV
  - Opel Ampera-e
  - Buick Regal HEV
  - Cadillac CT6 Plug-In

Total: 115,379

**12**

Global Models With Some Form of Electrification

 PRODUCTS: Measure

**LIGHTWEIGHTING INITIATIVES: POTENTIAL SAVINGS**

**350+ pounds**

Average weight taken out of each architecture on each launch

**35 million**

Gallons of fuel saved

**312,000**

Metric tons CO2 saved

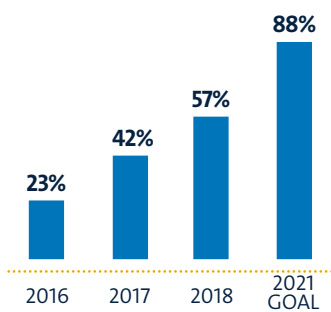


*GMC Sierra*

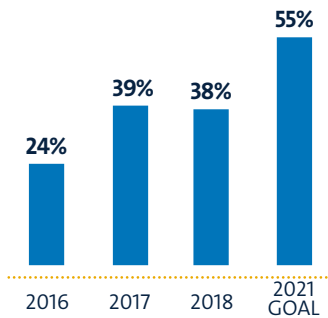
**AN UNPRECEDENTED EXPANSION OF TECHNOLOGY**

Percent of Total U.S. Volume

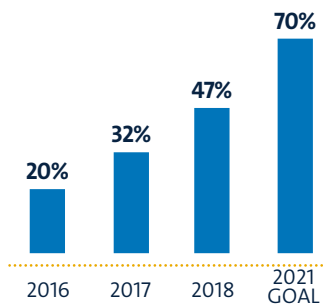
**Stop-Start Technology\***



**Downsized-Turbo Engines\***



**Advanced Transmissions\***



\*To improve the consistency and quality of our long-term advanced technology data reporting, we are now using Model Year rather than Calendar Year data.



# ACTIONS We're Taking



## Transform Battery

## Technology

At the heart of our EV investments—and the literal heart of most GM EVs themselves—are lithium-ion batteries that store the energy that powers our plug-in hybrids and EVs. Battery size, cost and charging capabilities remain important focus areas for our R&D efforts. By improving battery technology, we can increase affordability and acceptance of EVs, an essential part of a zero-emissions future.

### In 2018, GM continued to expand its presence in China, launching the SAIC-GM Battery Assembly Plant.

With this goal in mind, GM and Honda recently announced a collaboration on next-generation battery technologies, combining our scale and efficiencies in global manufacturing. Under this agreement, Honda will source battery cells and modules from

GM, creating scale and manufacturing efficiencies. The next-generation battery will deliver higher energy density, smaller packaging and faster charging capabilities for both companies' future products, mainly for the North American market. This partnership accelerates both GM's and Honda's plans to get powerful EVs in front of customers and builds upon our joint venture to produce an advanced hydrogen fuel cell system in the 2020 timeframe.

Also in 2018, we announced major enhancements to the battery lab at our Global Technical Center in Warren, Michigan. Opened in 2009, this battery lab helped bring the Chevrolet Volt, Spark EV and Bolt EV to life. A \$28 million expansion allows us to complete nearly all battery testing under one roof, reducing development time and cost. The lab, already one of the largest in the world, includes new heavy and mild battery abuse test areas, test chambers and advanced equipment to accelerate our next-generation battery architecture.

## Call for a U.S. National

## Zero Emissions Vehicle Program



*Chevrolet Bolt*

When the National Highway Traffic Safety Administration (NHTSA) and Environmental Protection Agency (EPA) proposed to amend the U.S.'s Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) standards, GM took the opportunity to weigh in. We believe that a single, 50-state solution is the most effective way to move the U.S. to a leadership position in electrification.

That's why we've called for a National Zero Emission Vehicle (NZEV) program based on existing ZEV programs that would establish requirements for automakers to incorporate ZEVs as an increasing part of their portfolios, up to 25 percent by 2030. It would also establish a Zero Emissions Task Force to promote complementary policies, such as charging infrastructure investments, renewed federal incentives for EV purchasing, and regulatory incentives to support U.S. battery suppliers.

This program could place more than 7 million long-range EVs on the road by 2030, while reducing CO2 emissions by 375 million tons between 2021 and 2030. It would also encourage American innovation and preserve our industrial strength while making EVs more affordable.

The stakes are high, and time is short. Governments and industries in Asia and Europe are working together to shift to an all-electric future, and we believe that the U.S. has a similar opportunity to lead.

## More Than Just Lower Emissions

Shifting to zero-emissions vehicles will not only protect the environment—it will also strengthen American manufacturing and allow us to remain competitive. EVs will help support:

### Local manufacturing

The Bolt EV is assembled in the U.S., with suppliers of Bolt EV components and systems in 16 states.

### Global competitiveness and leadership

China spent more than 25 times more on vehicle electrification than the U.S. over a five-year period. Without new U.S. policy and R&D investment, the majority of EV batteries and vehicles will be built overseas.

### Energy security

EVs can help reduce dependence on a single source of energy, which would ensure uninterrupted logistics in the event of an energy shortage or embargo.

### National infrastructure

Infrastructure projects are needed to prepare the grid and roads for an electric future. Such projects would create jobs and be an economic catalyst for the nation, while increasing visibility of EVs.

## Expand Our EV Portfolio

Acting on our vision of a zero emissions future, GM's strategy is firmly focused on expanding its EV portfolio over the next decade.

Cadillac will be GM's lead electric vehicle brand and will introduce the first model from the company's all-new EV architecture. This architecture will be the foundation for an advanced family of profitable EVs, including an array of body styles and front-wheel, rear-wheel and all-wheel configurations. The output of vehicles' battery systems will be adjustable based on vehicle and customer needs, all with a relatively short design and development lead time.

To support these commitments, we are ramping up production of EVs in the United States. We have announced a production increase for the Bolt EV, with a new LG Electronics facility in Hazel Park, Michigan, making battery packs to supply our Orion Assembly Plant.

GM will also invest \$300 million in our Orion Township, Michigan assembly plant to produce an all-new EV from Chevrolet. The new EV was originally slated for production outside the U.S., but we decided to bring it to Orion due to the facility's experience with the Bolt EV. The new vehicle will be designed, engineered and manufactured based on an advanced version of the Bolt EV architecture. The decision also supports the rules of origin provisions in the proposed United States, Mexico and Canada Agreement. The investment will bring 400 new jobs to the Orion facility.



### THE ELECTRIC OPPORTUNITY IN CHINA

A key market in GM's global strategy for an all-electric future is China, where demand for EVs is high and government policies encourage rapid adoption. In 2018, we revealed the Baojun E200. China is the world's largest EV market, boasting half of the world's public EV charging infrastructure as of the end of 2018. Our growing sales and portfolio in China will further enable us to introduce new vehicles and scale EV adoption globally.

**1 million**  
EVs sold in 2018

**20% by 2025**  
Expected NEV vehicles sales in China

**10**  
GM NEV models launched between 2016 and 2020

**200 million**  
Electric kilometers driven by GM China customers

## Raise Awareness of EVs

We continue to leverage the Chevrolet Bolt EV in our Maven Gig program exposing more drivers and potential customers to electric vehicles. We also support public education and awareness movements, such as the “Electric for All” campaign through our partnership with Veloz in California and the “Drive Change. Drive Electric.” awareness campaign in the Northeast.



Chevrolet Mexico found a creative opportunity to educate drivers about the benefits of driving gas-free when a gasoline shortage struck major Mexican cities in late 2018. A Bolt EV traveled between gas stations in Mexico City, reporting current fuel levels to followers on social media. Hundreds of affected people used GM’s hashtags to request status reports, and thousands interacted with the content. The campaign not only drew the attention of those following along online; it caught the interest of others waiting in line for gas or diesel at local stations, who began asking questions about the Bolt EV’s range and other features. Alternative fuel vehicles made up just 1 percent of new vehicle sales in Mexico in 2018. If fuel shortages and other factors like rising gas prices persist, these vehicles may become an increasingly commonsense choice.

*Chevrolet Bolt*

**47 Million\***  
Maven electric miles driven

**1.8 Million\***  
Gallons of gas saved on  
Maven electric drives

\*As of April 1, 2019  
Inclusive of Express Drive



## Partner With Utility Providers

GM and Consumers Energy, Michigan’s largest energy provider, recently launched a pilot program to test smart charging for EVs. Participants in the program will be able to plug in their EVs at home and delay charging until overnight hours. Consumers Energy will offer rates specifically for EV owners to encourage charging in off-peak hours, when electricity demand is lower.

The utility is also developing a three-year, \$7.5 million effort to encourage the development of EV charging stations across Michigan. That would include rebates for charging stations in people’s homes, at their workplaces and along major thoroughfares. We’re proud to have a partner who is as committed as we are to promotion of EVs in Michigan and beyond.

In a related effort, GM is working with Honda, as well as the Mobility Open Blockchain Initiative (MOBI) and other partners, to explore the use of blockchain to track power supply in electric vehicles and smart grids. Large numbers of EVs connected to urban grids are a potential way to store excess power during

demand fluctuations. Blockchain technology could help determine the most efficient exchange of energy, and this arrangement could someday be a revenue stream for EV owners.

These are a few of the latest examples of how GM is working with the electric utility industry, EV charging service providers and EV-related state and local stakeholders to help build an EV charging infrastructure. As a result of these types of joint efforts, electric utilities have received more than \$1 billion in EV-related investments with more expected support to come, and 42 states have committed to investing in EV infrastructure.

We’re also leading by example. In the U.S. and Canada, General Motors has more than 700 workplace chargers at 49 of its sites. Solar charging canopies have been installed at nine sites so employees can use renewable energy to charge their EVs while at work, and we encourage other companies to provide workplace charging.

**20**  
Utilities supported  
in program filings

**10**  
Testimonies at state  
and federal hearings

**50**  
Official comments  
filed with states

**\$1 billion**  
In EV-related  
investments based  
on comments

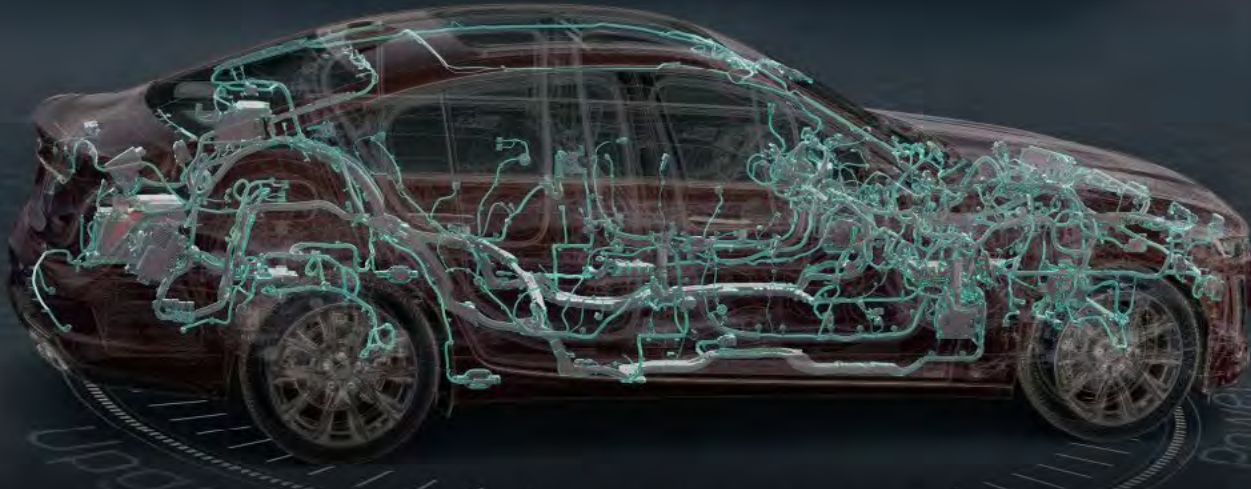
**42**  
States committed  
to increasing EV  
infrastructure



# Advocating for EV Infrastructure in 2018

## GM digital vehicle platform

GM's new electrical architecture is five times stronger, with the bandwidth to power its next-generation of vehicles and technologies.



### Equip Vehicles With a Platform

### for Advanced Technologies

The technology inside a GM vehicle is beginning to look less and less like that of vehicles past—and more like the inside of your smartphone or laptop. Cars are becoming high-powered computers on wheels as they incorporate next-generation battery-electric technology, as well as active safety, autonomous, infotainment and connectivity features. These advancements require greater bandwidth and computing power. This is why GM has introduced an all-new electrical platform, or operating system, consisting of software and hardware designed to power the next generation of vehicles, enabling all advanced in-vehicle technologies to run seamlessly and in conjunction with each other.

Debuting on the 2020 Cadillac CT5 sedan, the electronic platform will go into production in 2019 and should be rolled out to most vehicles within GM's global lineup by 2023. The platform is not a new feature in itself, but rather the framework that will enable a host of current and planned vehicle features. It is capable of managing up to 4.5 terabytes of data processing power per hour, a fivefold increase in capability over GM's current electrical architecture.

Increased technology demands increased attention to security. Cybersecurity is a pillar of the new architecture, with added protective features at both the hardware and software levels. GM's Product Cybersecurity organization, one of the first such groups among major automakers, provides the necessary expertise to protect against unauthorized access to vehicles and customer data.

Advanced connectivity within vehicles also means that owners will be able to increase the functionality of their cars, trucks, SUVs and crossovers over time. With an expanded capacity for smartphone-like over-the-air software updates, the system allows for upgrades throughout the lifespan of the vehicle. This means that owners will not only be able to access the best of what's available today—they can continually stay on the cutting edge of safety, efficiency and mobility innovations yet to be invented.

## Enhance Customers'

## Charging Experience

What if charging an EV was even easier than filling a car up with gas? A new partnership between GM and three leading EV charging networks in the U.S.—EVgo, ChargePoint and Greenlots—could begin to make that possible.

GM will aggregate data from each of the three networks and share it with Bolt EV customers using the myChevrolet app. Drivers can use the app to locate nearby charging stations and find out if a station is working, available and compatible with the Bolt EV. GM also expects to make enrollment for charging with these networks easier by creating an app interface for all three networks to streamline charger access and potentially allow activation of a charging session using the app instead of a membership card.

The myChevrolet app was recently updated to allow Bolt EV drivers to access certain features through their vehicle's infotainment system, such as vehicle range, charging station locations and search. It includes route planning that takes into consideration charging stops along the way if the destination is out of range.

We are also partnering with the U.S. Department of Energy to address demand for fast charging. Soon, we will release a prototype EV capable of 180-mile range with less than a 10-minute charge. The experimental EV will be delivered to Delta Electronics for official testing and could pave the way for future fast chargers that are smaller, lighter and more efficient than existing models, making travel even more seamless.



## SUPPORTING EV INFRASTRUCTURE GROWTH

We advocate for expanding state and federal tax credit programs so more consumers are encouraged to go electric. Incentives in states such as New York, Massachusetts, Connecticut, Colorado and California can help tip the balance in favor of EVs. For regions with high traffic congestion, such as Atlanta and Los Angeles, establishing carpool or HOV lane access for EVs has proven to be effective in bringing them to the top of consumers' minds.

## Apply Efficient Fundamentals

### Across Our Portfolio

As GM makes progress toward an all-electric future, we are also optimizing our vehicle lineup of today. We are doing so through a strategy that emphasizes Efficient Fundamentals, continual improvements that are making our conventional vehicles lighter and more fuel-efficient. For example, the 2019 Chevrolet Silverado 1500 is now equipped with Dynamic Fuel Management, which means that the engine will operate more often with a reduced number of cylinders, saving fuel across the board. This industry-first cylinder deactivation technology enables the 5.3- and 6.2-liter V-8s to operate in 17 different cylinder patterns to optimize power delivery and efficiency.

Chevrolet first introduced its Active Fuel Management cylinder deactivation system in 2005, and Dynamic Fuel Management (DFM) is a natural progression of that technology. During an industry-standard test schedule, the 2019 Silverado 2WD with the 5.3-liter V-8 and DFM operated with fewer than eight active cylinders more than 60 percent of the time. The engines also feature driver-selectable stop/start technology that helps save fuel in stop-and-go traffic. In early 2019, GM announced plans to invest \$22 million at our Spring Hill, Tennessee, manufacturing complex to enable the engine plant to build 6.2-liter V-8 engines

equipped with DFM. The investment will enable us to extend this efficiency-boosting technology to more GM vehicles.

We are also reducing emissions by decreasing vehicle weight. Take the all-new 2019 GMC Sierra Denali, which replaced standard steel inner panels and floor with a lightweight, purpose-designed carbon fiber composite that offers best-in-class dent, scratch and corrosion resistance. The new material is 62 pounds lighter than the steel version. Our approach also incorporates aluminum for the doors, hood and tailgate, while relying on steel for the fenders, roof and standard cargo box to shave up to 370 pounds from the prior model.

### 2019 Green Car Technology for the Year Chevrolet Dynamic Fuel Management System

*“Chevrolet Dynamic Fuel Management epitomizes the innovation that continues to make internal combustion engines more efficient and relevant in an increasingly electrified world.”*

— Ron Cogan, Editor, Green Car Journal

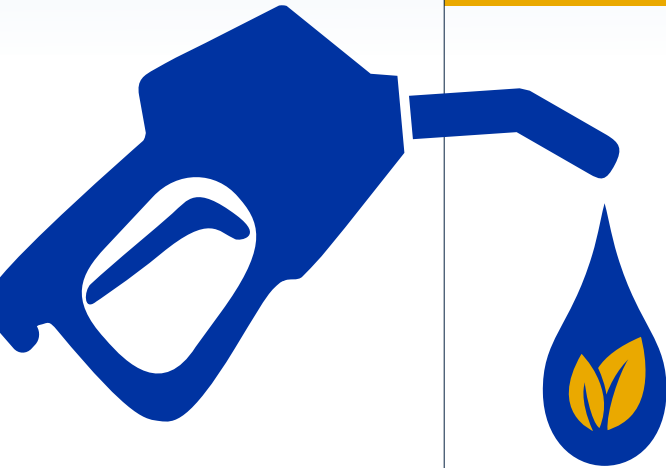


Chevrolet Silverado 1500



## Reduce Vehicle Emissions

### Through OpEx Improvements



As we drive toward an all-electric future, we must continue to meet emissions requirements for all vehicle types while balancing profitability and compliance risk. GM senior leadership recently supported a series of operating excellence projects to help manage this risk.

In seven months, teams developed changes that could improve fuel economy for more than 90 percent of GM’s North American fleet. Improvements included reduced vehicle rolling resistance, increased propulsion and electrical efficiency, while ensuring the capture of off-cycle credits across programs. Employees also created new tools to communicate the financial cost of noncompliance to program teams for easier and earlier optimization.

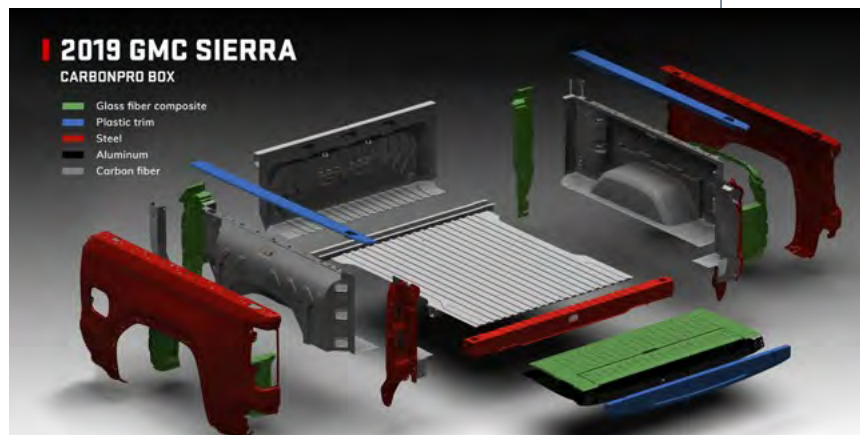
“Putting our customers first while simultaneously meeting our corporate objectives—in this case, GHG emissions—at the lowest possible cost is a huge challenge,” says Dean Guard, Executive Director, GM Global CO2 Strategy and Energy Center. “It requires an incredible team effort and commitment from each team member, not to mention a solid accounting system that keeps our progress visible and helps keep the team on track.”

## Reduce Weight in Our Toughest Vehicles

The Sierra Denali 1500 and the Sierra AT4 1500 large pickups are built to withstand heavy-duty tasks, from trailering heavy equipment to carrying hefty cargo. A newly designed cargo bed for 2019 vehicle models, known as CarbonPro, will help them stay up to these tasks with less vehicle weight. CarbonPro beds are made with a lightweight carbon fiber composite that weighs 25 percent less than a traditional steel bed, removing roughly 62 pounds of vehicle mass. Its grained surface also negates the need for bed liners, potentially saving a total of 100 pounds of weight.

But the material does not sacrifice durability—in fact, CarbonPro is now the most scratch-, dent- and corrosion-resistant pickup bed in the industry. Validation testing for the bed included drop tests using cinder blocks, 1,800-pound loads of gravel and water-filled steel drums; extreme temperature testing in environments from Arizona to Ontario; and scratch testing performed using a snowmobile with metal studs on the track driven into the bed and accelerated at full throttle. The CarbonPro bed withstood it all.

GM’s supplier can produce one CarbonPro cargo bed about every 10 minutes with almost no waste created in the manufacturing process. As sheets of



carbon fiber are trimmed to fit the cargo beds, scraps are ground and used for other pieces of the design. Because the entire process happens in a single Indiana facility, recycling is quick and efficient.

The benefits of carbon fiber are numerous, but it remains expensive to work with. Now that GM has foundational expertise working with this material to launch the CarbonPro, we may explore opportunities to purchase carbon fiber in greater volumes to further decrease vehicle weights across our portfolio.

# PERSONAL MOBILITY

ASPIRATION: Zero Congestion



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Zero Congestion

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# What We **ASPIRE** To:



## Zero Congestion

More than 100 years ago, General Motors was part of a mobility revolution. We gave the world the automobile, and with it, changed how people moved, how businesses operated and how cities grew. Now, we're driving a second revolution, one that involves the convergence of vehicles that are autonomous, connected, shared and electric. This revolution will unlock progress toward each of our aspirational goals: zero crashes, zero emissions and zero congestion. GM is bringing this future forth with innovations that are rewriting the rules of vehicle use and ownership.

# Our MANAGEMENT Approach to Personal Mobility



*Buick Regal*

GM envisions a future where we can enjoy the benefits of vehicle use — freedom, convenience and comfort — while minimizing risks such as crashes, congestion or pollution. We are working on the technologies that will make this future possible, blending global insights with local market expertise as the automotive industry transforms from a traditional manufacturer of goods to a provider of services that delivers new ways of thinking about transportation.

 **TOPICS DISCUSSED IN THIS SECTION**

- [Our Autonomous Future](#)
- [Powered by Electricity](#)
- [Shared Value](#)
- [Leading in Connectivity](#)
- [Cybersecurity Risks](#)

Over the past decade, GM has built a strong leadership position in vehicle electrification and connectivity. And in the past three years, we have been rapidly building a similar position in autonomous and shared vehicles, as we continue exploring and developing our shared mobility and autonomous ride-sharing platforms.

***Our Autonomous Future***

The most significant change affecting modern mobility is the rise of autonomous vehicles (AVs). Autonomous driving is on the brink of disrupting the automotive industry, and GM is helping chart the course of that transformation. AVs could help bring enormous societal benefits, the most visible of which will be dramatic

increases in road safety. Consider that in the United States alone, nearly 40,000 people are killed and 2 million are injured on the roads each year. Human error is to blame for 94 percent of these injuries and deaths. By taking human fatigue, distraction and impairment out of the equation, we can save the lives of tens of thousands of drivers, passengers, cyclists and pedestrians.

AVs will save another precious commodity: time. The number of cars on the road — which currently lack connectivity to manage their flow — creates congestion, wastes time and costs money. The average American spends 42 hours in traffic every year, paying roughly \$1,400

*Chevrolet Bolts with Cruise Automation*



**GM is the right company to deliver the benefits of AVs**



(Cont.)

for that fuel. Globally, we estimate that the economy loses roughly \$1 trillion per year in lost productivity due to people and goods being stuck in traffic. AVs will address these challenges by reducing the crashes that bring traffic to a standstill and will ease bottlenecks through technologies like platooning.

GM is the right company to deliver the benefits of AVs. Unlike other companies who are retrofitting conventional vehicles with autonomous technology, or designing their own vehicles for the first time, GM brings expertise in automotive design, safety testing and proven quality methods refined over more than a century. We also have the manufacturing capacity and talent to bring AVs quickly to scale. In fact, in 2017 we became the first automaker to use mass-production auto assembly line methods for autonomous vehicles, and we remain the only company with this capacity.

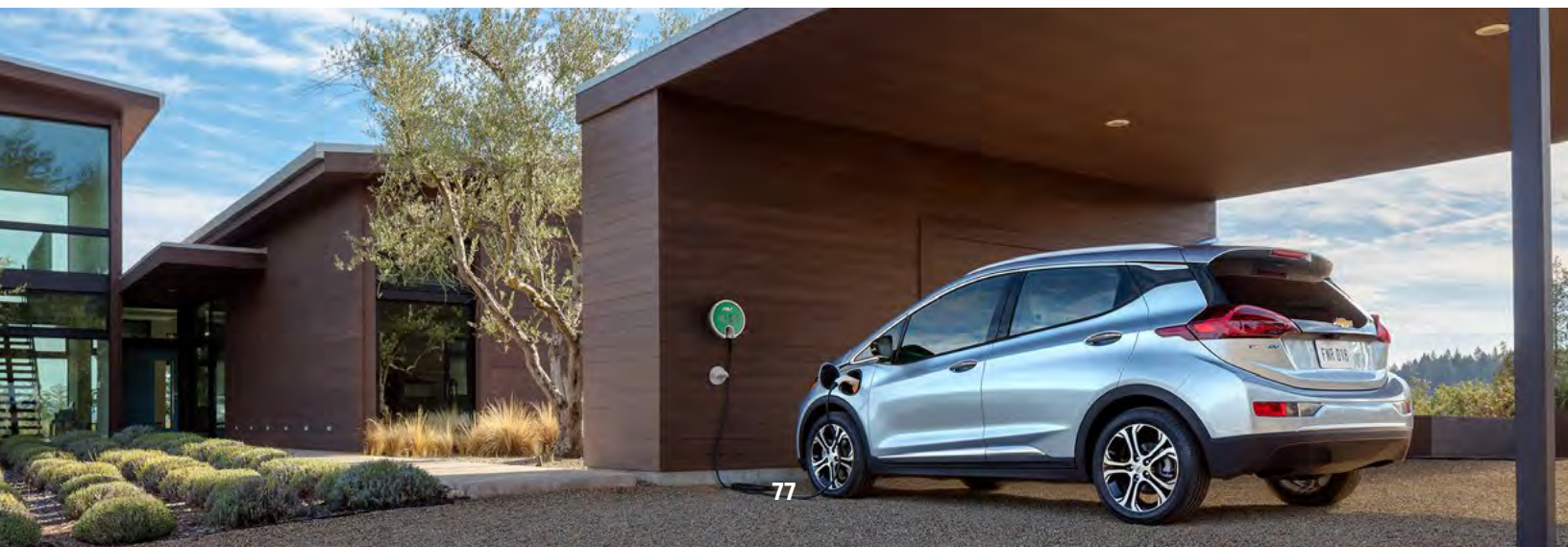
In 2018, GM published our first Self-Driving Safety Report, describing how safety is integrated into the development, testing and deployment of the Cruise AV. Our AVs are built at our assembly plant in Orion Township, Michigan, which assembles thousands of vehicles per year. The AVs undergo the same rigorous safety and durability testing as other GM production vehicles. Vehicle development fully addresses all 12 safety elements in the NHTSA's voluntary guidance, Automated Driving Systems 2.0 — A Vision for Safety.

**Powered by Electricity**

Every GM autonomous test vehicle is also an electric vehicle, with a design based on the Chevrolet Bolt EV. Introducing these technologies in tandem accomplishes multiple goals, including increasing acceptance of EVs and encouraging buildout of EV charging infrastructure. In addition, there are benefits to integrating AV technology into an EV — as opposed to a conventional or hybrid vehicle — from an engineering perspective.

Across the country at the state and federal level, regulators and legislators are actively considering how to help foster and shape the evolution of AVs. GM is committed to a transparent and active partnership with policymakers in this process. In particular, we are focused on discussing our mobility offerings with city officials across the U.S. and around the world, given that urban settings are the environment in which many of our advanced technologies will provide the most robust applications and value.

*Chevrolet Bolt*







(Cont.)

The development of our AV fleet offers a preview of what’s in store when autonomous and connected vehicles converge. As our autonomous test vehicles travel the streets, they contribute to a shared knowledge base that benefits every vehicle in the fleet. If one car sees that a road is closed, for example, others automatically avoid it. Or, if there is a dangerous road hazard, a single car can notify thousands of others to avoid a potentially unsafe situation. Such connectivity will result in a new ecosystem of intelligent vehicles that have the ability to transform traffic flow, improve safety and relieve congestion.

**GM has implemented a new cybersecurity governance structure at the highest levels of the company**

**Cybersecurity Risks**

We are balancing these advances in technology with attention to the potential risks they pose. For example, continued evolution of connected car technologies, the expansion of the vehicle ecosystem and advent of autonomous driving capabilities elevates cybersecurity concerns to another level of complexity and risk. In recognition of these developments and their potential impact on our business, GM has implemented a new cybersecurity governance structure at the highest levels of the company. Oversight responsibilities for cybersecurity programs and risks now lie with the GM Board of Directors, which has created a Cybersecurity Committee. At the operational level, cybersecurity management sits in a new Global Cybersecurity organization that encompasses both product and corporate cybersecurity functions across all areas of the business.



The freedom and opportunity that vehicles have provided over the past 100 years has come with often adverse effects in the form of injuries, emissions and congestion. Now, transformative innovations — autonomy, combined with electrification, sharing and connectivity — are changing the nature of transportation and our relationships to the vehicles that move us. These innovations, in the hands of GM engineers and experts, are creating a historic opportunity to make personal mobility safer, better and more sustainable for customers around the world.

# What We MEASURE



MAVEN

**186,000**

Maven members

**17**

Major North American cities

**414 million\***

Maven miles driven

**47 million**

Maven Gig EV miles driven

*\*As of April 1, 2019 Inclusive of Express Drive*

## AUTONOMOUS VEHICLE DEVELOPMENT

**447,621**

Miles of public roads driven autonomously by Cruise vehicles in California — 3.5x more miles driven than in 2017

**1,100**

Cruise employees

**\$5 billion**

External capital committed in 2018

**5,205**

Urban miles average distance between human interventions



# ACTIONS We're Taking



*Chevrolet Bolt with Cruise Automation*



## Partner to Accelerate

## AV Deployment

GM's lead in the development and deployment of autonomous vehicles (AVs) grew even stronger during 2018 with the addition of powerful partnerships. First, the SoftBank Vision Fund announced a \$2.25 billion investment in Cruise, accelerating our plans to commercialize AV technology at mass scale. Next, GM and Honda announced our plans to collaborate on the development of a purpose-built AV that can be manufactured at high volume for global deployment. Honda's expertise in space-efficient design will help us create a vehicle unlike any the world has seen. We will also explore other ways to commercialize the Cruise platform, such as an autonomous ride-hailing network. Honda's total commitment to these initiatives will be \$2.75 billion over 12 years.

GM began assembling Cruise AVs at our Orion Assembly Plant in 2017, using our manufacturing scale and expertise to help Cruise quickly test and prototype its vehicles. With Honda on board, the path to production for Cruise AVs is even faster. Says Kyle Vogt, Cruise's co-founder as well as its President and Chief Technology Officer, "The Honda partnership paves the way for massive scale."

The SoftBank  
Vision Fund announced a  
**\$2.25 billion**  
investment in Cruise



## Solving the Biggest Engineering Challenge

### of Our Generation



On January 1st, 2019, former GM President Dan Ammann became CEO of Cruise, GM's majority-owned self-driving car subsidiary. He explains how Cruise is making rapid progress toward safe, all-electric self-driving cars.

# Q

### **It's widely acknowledged that the potential addressable market for self-driving cars is enormous. What is Cruise doing to capture that opportunity?**

In the simplest terms, we're trying to build a driverless car that is safer, more secure and provides a better user experience at a lower cost than a human-driven car. But that simple problem statement turns out to be the biggest engineering challenge of our generation. We have a strong view on the necessary inputs to meet the challenge: engineering talent, capital and deep integration with an automaker. Cruise is the only company with all of those pieces.

### **What are the major business applications presented by self-driving cars?**

Four applications that we see today are rideshare, delivery, data sharing and licensing. We have active business development going on in each of these areas. For example, we're running an internal rideshare program for Cruise employees, which is giving us insight on running self-driving cars not just for development purposes but in a real ride-hailing context. On the delivery front, we recently announced a partnership with DoorDash for food delivery, which will further inform design and development. Within data and licensing, we are exploring opportunities such as sharing lane-level traffic data collected by AVs with logistics operators to further decrease congestion.

### **How is Cruise improving its vehicles' safety on the roads?**

Safety is our only gating metric that will determine when we're ready to launch in full driverless mode. The goal is not just to exceed human driver performance, but to continue to improve far beyond it. That's why we're doing almost all vehicle testing in downtown San Francisco, a highly complex environment. When our test vehicles are confronted daily with situations like unprotected left turns, construction zones, and plenty of cyclists and pedestrians, the vehicle is naturally going to learn more per mile of driving than if it were in a suburban environment.

(Cont.)

### What updates is Cruise making to the body of its self-driving cars

We've fully changed over our fleet of cars from the second generation to the third generation. While these two cars look similar from the outside, under the skin they are very different. The third-gen cars have all layers of redundancy necessary to operate in full driverless mode. And they're being built on GM assembly lines. Cruise remains the only self-driving car company that is building cars with all necessary technology and sensors, in automotive-grade fashion, straight from the plant. This integration has underpinned our strategy going back to GM's original acquisition of Cruise, and we're continually finding benefits to having all these capabilities under one roof.

### What are Cruise's priorities for 2019?

Our focus is on enabling our growing team to safely do the best work of their lives and solve the greatest engineering challenge of our generation: a vehicle that's safer, more convenient and less expensive than a human driver — and doing so at massive scale to have a similarly massive impact to the world. It's a really exciting time.

*Cruise Automation*





Chevrolet Bolt with Cruise Automation

## Help Ensure Autonomous Vehicle Safety

In 2018, GM published its first self-driving safety report, explaining our approach to building safe vehicles from design through production and rapid improvement. It explains the technology that makes our vehicles work and how we address the 12 safety elements covered by National Highway Traffic Safety Administration (NHTSA)'s voluntary guidance.

Leveraging more than 100 years of automotive experience, GM self-driving vehicles are manufactured with the same high-quality standards as the millions of other vehicles we build for our customers around the world each year. Using integrated hardware and software development and testing in one of the most complex environments in the world has helped GM create what we believe is the safest self-driving vehicle.

We also have joined Ford, Toyota and SAE International in forming the Automated Vehicle Safety Consortium (AVSC), which will help advance testing and safety standards for self-driving vehicles. GM and our OEM peers have generations of experience developing and deploying safe vehicles and have a joint interest in ensuring that AVs and associated regulations are established with safety and reliability in mind.

“Safety is at the center of everything we do at General Motors, and that’s certainly the case with our development of self-driving technology,” says John Capp, GM Director of Global Vehicle Safety. “We are eager to bring our experience to this consortium and to collaborate with other like-minded companies, so we can realize the true benefits of this technology.”



## Expand Maven Platform for

## Peer-to-Peer Sharing

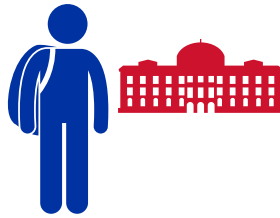
Today, cars spend an average 95 percent of their time parked, rather than doing what they were built to do: drive. Many drivers need vehicles only during certain hours or days of the week, or to get to destinations not served by public transit. What matters most to these customers is not ownership, but access.

Maven, GM's personal mobility brand, is a response to these changing behaviors. It has evolved into one of the fastest-growing mobility brands in North America. The app-based sharing service offers GM vehicles to rent by the hour, the day, the week or the month. Maven services are designed for many car-sharing communities and needs:



### City station-based car sharing:

Vehicles are available to rent for round trips by the hour, day or month.



### University campus sharing:

Cars are available on campus for students to rent.



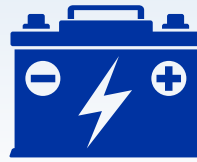
### Maven Gig:

Cars are available for rent by the week for rideshare and delivery drives.

The latest addition to the Maven platform is a peer-to-peer offering that allows Chevrolet, Buick, GMC and Cadillac owners and eligible lessees to rent their personal vehicles to Maven members, enabling owners to generate income from their cars when they would otherwise be parked. The service began with a beta in select markets in July 2018. Since we've introduced the offering, the fleet of Maven cars in the Car Sharing platform has doubled in size in markets such as Detroit.

We're also adopting a sharing mindset within our own team. When Maven employees were challenged to share a trip with a colleague once a week, they logged 10,000 shared miles in just three months. Continuing to scale these solutions could mean even more shared miles — and more human connections.





Riders can charge their ARIV eBike's battery in approximately 3.5 hours and receive up to 40 miles of ride time per charge



ARIV eBike

## Think Beyond the Vehicle With ARIV

Embracing the future of mobility includes alternative forms of transportation beyond individual automobile ownership. With ARIV, GM's new electric bike (eBike) brand, we are providing people an alternative form of transportation to help them move more freely through the congestion of a city. ARIV's two bikes, the Meld, a compact eBike, and the Merge, a folding eBike, are designed with urban commuters in mind, and help to create a world with zero emissions and zero congestion.

The ARIV eBikes were designed at GM facilities in Michigan and Oshawa, Ontario, bringing together automotive-grade capabilities and GM's extensive experience with electric vehicle motor software and controls. A proprietary motor was built from the ground up specifically for ARIV eBikes, enabling speeds of up to 15.5 mph with four levels of pedal-assisted power.

Batteries were validated to rigorous safety standards similar to GM's electric vehicle batteries. Riders can charge their ARIV eBike's battery in approximately 3.5 hours and receive up to 40 miles of ride time per charge.

ARIV eBikes are also designed for safety, with integrated, rechargeable front and rear LED safety lights and oversized brake rotors to make it easy to come to a quick stop. The bikes connect via Bluetooth to an app that provides metrics such as speed, distance, remaining battery level, motor assist level, distance traveled and more. Riders can attach and even charge their smartphones from the eBikes while on the go.

The bikes will first hit the streets in Germany, Belgium and the Netherlands, where battery-powered eBikes are already popular. There, they will help reduce emissions and congestion by taking cars off the road, giving customers more freedom to move beyond the traditional vehicle.

# SUPPLY CHAIN

ASPIRATION: Positive Environmental & Social Impact



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- 100 Promote Disclosure Across Our Supply Chain
- 100 Manage Supply Chain Impact Through Life Cycle Analysis



# What We **ASPIRE** To:



## 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 advanced technologies, such as autonomous and electric vehicles. We seek to partner with suppliers who share our purpose and values as we move toward a future of zero crashes, zero emissions and zero congestion. 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.





# Our MANAGEMENT Approach to Supply Chain



GM is committed to exemplary supplier partnerships built on integrity and shared values. Our supply chain spans over 18,000 businesses around the world. We spend approximately \$97 billion, representing a wide variety of raw materials, parts, supplies, freight, transportation and other services. These are delivered or provided to more than 133 manufacturing operations in 16 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.



## TOPICS DISCUSSED IN THIS SECTION

Supply Chain Governance

Supply Chain Compliance

Supply Chain Risks

Industry Collaboration

Localization

As an example, life cycle analysis reveals that greenhouse gas (GHG) impact is nine times greater in our supply chain than in our own operations<sup>1</sup>. By working with suppliers to reduce their own GHG emissions, we are able to reduce 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:

- Put the customer at the center of everything we do.
- 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.
- Lower or mitigate business risks.
- Eliminate waste from value streams and deliver defect-free vehicles.
- Address human rights issues.

Chevrolet Camaro

<sup>1</sup>CDP's Global Supply Chain Report 2018





**SUPPLY CHAIN: Manage**



**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 leader 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 our 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**

It's important to GM to gain supplier input on major process improvements and other issues that may affect them. GPSC has several forums for formal supplier engagement. The GM Supplier Business Council now consists of 19 global suppliers who meet monthly with our GPSC leadership team. In late 2018 we combined both the Supplier Business Council and the Diversity Council to enhance the collective voice and improve meeting efficiency. Another forum is a global GM Supplier Business Meeting that we webcast to our suppliers several months out of the year to gain input and a consensus approach on GM-specific topics. GM Chairman and CEO Mary Barra addresses this group during one of its meetings during the year. 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 2018, we launched a third forum for supplier input. The Supplier Safety Council will serve as a clearinghouse for supplier safety policies and best practices from across the supply base. This cross-functional Council meets quarterly to share lessons learned and best practices across the supply base. In addition, we have a dedicated internet portal (thru GM Supply Power) for our suppliers to provide and access best practices. GM encourages suppliers to use this information within their companies to facilitate discussions on important issues, including policies, guidelines, standards and even our Sustainability Report. During 2019, we will be evaluating supplier safety practices/involvement to identify a potential candidate for Supplier of the Year Award in 2020.



## SUPPLY CHAIN: Manage

### 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 they work with accountable for acting in a manner that is consistent with our Code of Conduct, *Winning with Integrity*.

Our Supplier Code of Conduct and supplier contracts set forth expectations for ethical social, business and environmental practices; our major suppliers must certify compliance. Beyond our Supplier 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; anti-discrimination; occupational health/safety and motor vehicle safety.

By choosing to do business with GM, our suppliers accept our terms and conditions, and for our largest suppliers we also expect that they certify compliance with laws in the provisions of our

contract. Additionally, we provide our suppliers with access to the same communication tools—the AwareLine, Speak Up For Safety, Global Response Incident Reporting and others—that our own employees use 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 webinars and provide external training to improve supplier operations, primarily in the areas of 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. The foundation of this process is our Built in Quality System (BIQS), consisting of IATF 16949 certification and BIQS Metrics requirements. This foundation allows us to cascade quality standards through tiers of our supply base. We aim for all of GM Tier I suppliers to achieve BIQS Level IV, the highest level possible. BIQS compliance also compels these Tier I suppliers to uphold the same quality standards within their own supply bases, since issues here can ultimately affect their quality performance.

Conflict mineral sourcing is another important supply chain area that we manage. Annual disclosure of conflict mineral sourcing is fully integrated into our business processes. Governance processes include a compliance committee of multifunctional GM leaders and an executive steering committee to provide leadership and direction for the program. A dedicated team conducts due diligence, analyzes findings and reports conflict mineral information from our supply base that encompasses more than 3,400 supplier locations. We have recently set an aspirational goal to achieve a 100 percent response rate from affected suppliers for submissions of the Conflict Minerals Reporting Template.

**By choosing to do business with GM, our suppliers accept our terms and conditions**





## SUPPLY CHAIN: Manage

### Supply Chain Risks

GM's approach is to drive tiered supplier visibility as the key to moving from a traditional reactive crisis management approach to one of proactive crisis avoidance. Over the past few years, we have developed a robust in-house, customized supply chain visibility tool, which integrates GM plants, Tier I suppliers, known Tier II suppliers and logistics nodes. This tool gives us the capability to map the geographic locations and relationships across the GM supply chain. The tool also incorporates 24x7 monitoring—Global Incident Mapping (GIM)—of potential disruptive events that could impact our supply chain partners worldwide. Our Global Crisis Management approach has significantly improved the response to disruptive events in the supply chain through using innovative tools and real-time data analysis. We monitor for both catastrophic events (earthquakes, hurricanes) and isolated disruptions (factory fires, labor strikes), reporting all potential impacts to our Command Center's Global Crisis teams for supplier follow-up. This approach supports zero production losses keeping material pipelines full, reduced premium transportation, alternative supply allocation planning and overall protection of supply for foreseen risks. We also provide risk scores to the Purchasing team, which are factored into the sourcing process and support mitigation plan development for high-risk areas.

Supply chain risks are also managed through our broader risk management functions and processes. All identified key risks are assessed, updated and reviewed by senior leaders at least twice a year. Within our Strategic Risk Management team, we utilize and offer a variety of decision-support tools, such as war gaming, game theory, scenario analysis, stress testing, sensitivity analysis and lessons-learned analysis. These techniques are applied across risk, functions and regions.



### 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 to develop sustainability and social responsibility requirements for our suppliers 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) and the International Automotive Task Force (IATF).

Industry collaboration groups are a primary forum for developing and sharing responsible supply chain practices across other automotive OEMs, Tier I and subtier suppliers. For example, in the U.S., GM employees maintain leadership positions in AIAG, provide direct financial support to the organization and leverage our sponsored membership program to enable free membership for small subtier suppliers. This allows key information and tools, such as responsible supply chain training materials, self-assessments, best practices and standards, currently



SUPPLY CHAIN: Manage



(Cont.)

available to Tier I suppliers, to cascade to the subtier supply base. We also require all of our supplier quality employees who visit supplier facilities to take AIAG training regarding responsible working conditions, including child/slave labor.

GM also was an active participant in the development of the AIAG's Guiding Principles to Enhance Sustainability Performance in the Supply Chain. These principles target the entire automotive supply base. In addition, very specific requirements regarding responsible supply chain practices are part of IATF 16949 Quality Standards. These requirements include an employee code of conduct, antibribery policy and an ethics escalation policy ("whistle-blowing policy"). Compliance to the IATF 16949 is a requirement for GM suppliers. Our corporate goal was for 100 percent of our direct suppliers to be compliant by the end of 2018.

**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.





# What We MEASURE



**\$97 billion**

Approximate annual supply chain spend

**18,000**

Global suppliers

**286,000**

Approximate items and services purchased

**87%**

Tier I suppliers assessed at manufacturing site level

**46%**

Tier I suppliers identified as critical

**100%**

Supplier contract templates that include ESG factors

**687**

GM employees receiving sustainability and working conditions training

**100**

Suppliers completing AIAG training funded by GM

**87%**

Of more than 4,000 suppliers are certified to IATF16949 Quality Standard

**3rd**

Ranking in North American Automotive OEM-Supplier Working Relations Index®



## SUPPLY CHAIN: Measure

### CDP SUPPLY CHAIN INITIATIVE

**211**

Participants in CDP Climate Change

**174**

Participants in CDP Water Supply Chain

**27 million**

Metric tonnes GHG emissions avoided

**\$1.4 billion**

Total savings from GM Supply Chain GHG reduction activity including logistics

### CONFLICT MINERALS

**3,400**

Reporting locations

**131**

Smelters and refiners asked to join RMAP

### LOCAL SOURCING

**90%**

North America

**80%**

International and South America

**89%**

China

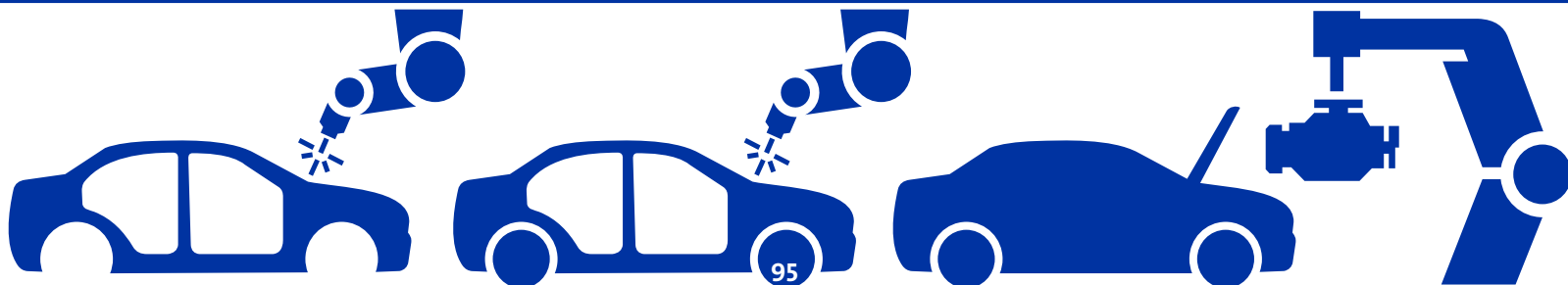
### SPENDING WITH DIVERSE SUPPLIERS

**\$3.9 billion**

Tier I spend

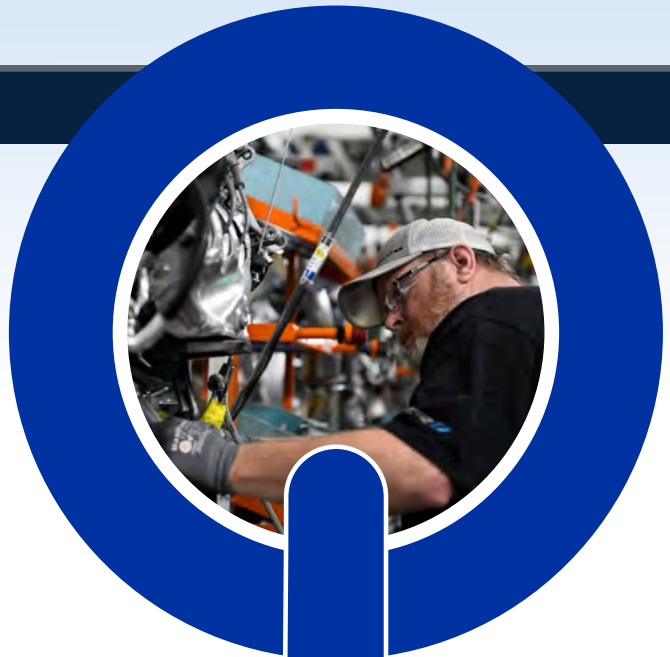
**\$3.6 billion**

Tier II spend





# ACTIONS We're Taking



## Promote Safety Across Our Supply Chain

Taking ownership of our own and others' safety means sharing safety information freely. We believe that safety should not be a competitive advantage, but rather should be communicated across industries. This concept led GM in 2018 to create a Supplier Safety Council, which will serve as a clearinghouse for safety policies and best practices across our supply base. Through this voluntary program, GM suppliers can attend regular forums to learn safety practices that they can take back to their own operations and supply bases. The program is not limited to GM's direct materials suppliers. Any supplier, from facilities to construction, is welcome to participate and learn. A Supplier Safety Page was created in our supplier portal for suppliers and GM to share best practices on several workplace-related safety topics. The link to this safety page is found [here](#).







## Encourage Progress on

## Sustainable Natural Rubber



Significant progress is being made by global natural rubber stakeholders in working towards the development of a globally sustainable rubber industry. In March of 2019 General Motors joined with a wide range of stakeholders that included tire makers, rubber producers, other OEMs and representatives of civil society, to officially launch the Global Platform for Sustainable Natural Rubber (GPSNR).

This independent, multistakeholder platform has been formed to lead improvements in the socioeconomic and environmental performance of the natural rubber value chain. GPSNR has now begun the job of working to align standards that will help protect human rights, uphold fair business practices, protect biodiversity and water resources and improve yields, and increase supply chain transparency and traceability.

GM is very proud to not only be a founding member of this group but also to have worked towards its creation, working closely with all relevant stakeholders to ensure that the GPSNR incorporated all elements of the supply chain, as well as key NGOs. Further, we are excited about what can now be achieved by the GPSNR and look forward to being a part of this in the coming years.

There's no denying the importance of rubber production globally. The industry supports more than 5 million people in Southeast Asia who benefit from the jobs created by its value chain. However, thanks to GM's connection with the World Wildlife Fund, we now more fully understand the consequences of rubber production. For example, it is one of the leading contributors to deforestation, especially in Southeast Asia. The industry also is susceptible to human rights violations and unethical business practices, including land grabbing and the threatening of wildlife and endangered species across the region.



## EXTEND SAIC-GM'S GREEN SUPPLY CHAIN TO TIRE SUPPLIERS

SAIC-GM's Green Supply Chain project has certified hundreds of suppliers, helping them increase their efficiency and decrease their impact on the environment since its launch in 2008. Each year, the initiative focuses on a different group of suppliers, offering training, energy audits and other support. In 2018, the joint venture extended the project to tire and secondary suppliers.

Maxxis Tires and Giti Tire Corporation worked with 35 of their own suppliers, including raw material suppliers. They participated in training and have launched more than 120 energy conservation and emissions-reduction projects. This has resulted in a reduction of more than 30 million kWh of electricity and 17,000 tons of standard coal consumed, which equals 36,000 tons of CO<sub>2</sub> emissions avoided per year.



## Manage Raw Material

### Supply Chain Risks

As electrification grows in importance to our vehicle portfolio, so too does the focus on cobalt, which is used in lithium-ion batteries. There are concerns around the use of child labor in the mining of cobalt, which would represent a serious violation of our Supplier Code of Conduct and terms and conditions in supplier contracts.

Through our membership in the Responsible Minerals Initiative (RMI), formerly known as the Conflict-Free Sourcing Initiative, we are working directly and actively on a cobalt subteam in the following areas:

- Developed a Cobalt Reporting Template based on the Conflict Minerals Reporting Template for suppliers to use in identifying cobalt refiners in their supply chain.
- Defined “cobalt refiner” to help identify the choke points in the cobalt supply chain. This is driven by the limited number of known cobalt refiners. GM has conducted research on potential cobalt refiners and provided this information to the RMI team.
- Conducting outreach to cobalt refiners, as they are identified, to participate in RMI’s Cobalt Refiner Supply Chain Due Diligence Assessment. This assessment is used to validate that cobalt refiners have systems and processes in place to conduct due diligence in accordance with internationally recognized frameworks.
- Conducting due diligence of key GM Tier I suppliers to receive assurance from these suppliers that responsible sourcing of cobalt is a top priority.
- Working with other cobalt associations to recognize RMI’s Responsible Minerals Assurance Process (RMAP) in order to have a common assessment standard for cobalt refiners.

The work we are undertaking in the cobalt supply chain builds off the practices we have established around conflict mineral sourcing. 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 3,400 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. We have recently set an aspirational goal to achieve a 100 percent response rate from affected suppliers for submissions of the Conflict Minerals Reporting Template.

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 Responsible Materials Work Group, which works on common automotive industry solutions with other OEMs and suppliers.

We are involved with several subteams within RMI, including the Smelter Engagement Team. If a smelter/refiner has not been validated as conformant to the RMI audit protocol, then GM sends letters to the smelters or refiners (SORs) to encourage them to participate in this third-party audit. To date, GM has sent letters to 131 smelters/refiners. To further encourage SORs to participate in the audit, GM has made contributions to the not-for-profit RMI Initial Audit Fund in 2017, 2018 and 2019. This fund is used to help offset the costs for the SOR to participate in the RMAP audit.



Chevrolet Bolt



## SUPPLY CHAIN: Act

### Work With Suppliers to Deliver

### Superior Freight Performance



Freight transport is a significant contributor to GHG emissions, accounting for 16 percent of emissions in the U.S.<sup>1</sup> Achieving zero emissions requires addressing this aspect of our footprint, which is why GM has been an EPA SmartWay® partner since 2013. SmartWay helps companies cut emissions from freight shippers and carriers by measuring performance and recommending strategies for becoming more efficient.

Thanks to this partnership, we avoided more than 224,600 tons of carbon emissions between 2015 and 2017. The effort required behavioral changes by our shipping suppliers, such as using new technology that shows a driver the most fuel-efficient route or turning trucks off once they arrive at a GM facility. Due to these changes, GM North America was awarded the 2018 SmartWay Excellence Award, the highest honor for leadership in freight performance. The award recognizes the top 2 percent of SmartWay partners with superior environmental performance. GM is the only original equipment manufacturer represented on the list.

### Support Diverse Suppliers

### for 50 Years and Beyond

GM has a long legacy of leadership in helping diverse suppliers flourish. In 1968, we became the first OEM to establish a formal supplier diversity program. Over the past five decades, we have spent more than \$100 billion with diverse suppliers and contributed to innumerable community initiatives in collaboration with diverse suppliers.

We engage with our suppliers through long-standing events such as Supplier Connections, which attracts more than 1,000 suppliers each year for a day of networking, education and collaboration. GM also holds the annual Supplier Impact Meeting and Awards, which honors suppliers for increasing diversity in their own supply chains.

We've also expanded our outreach more recently, such as our partnership with the Michigan Minority Supplier Development Council (MMSDC) to launch UniTier, a new portal that simplifies reporting of Tier II diversity spend, released in 2018. GM was also proud to be recognized with two awards related to supplier diversity in 2018, including:

- America's Top Corporations "Gold Distinction" for Women's Business Enterprises, Women's Business Enterprise National Council
- Corporation of the Year, Asian Pacific American Chamber of Commerce





SUPPLY CHAIN: Act

Promote Disclosure Across

Our Supply Chain

CDP (formerly the Carbon Disclosure Project) helps companies better understand and manage climate change, deforestation and water-related risks. This effort goes beyond our own operational footprint to include those of our suppliers. For the past five years, we have engaged our supply chain by inviting a group of suppliers, around 340 in 2018, to participate in CDP's Supply Chain climate change and water programs. Following is a summary:



- 61%** Supplier participation
- 71%** Report active targets for emissions reduction
- 82%** Integrate climate-related issues into long-term business objectives
- 51%** Engage their own suppliers
- 87%** Engage in risk analysis



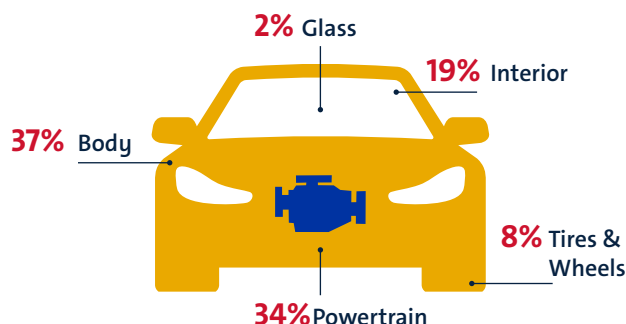
- 51%** Supplier participation
- 61%** Report water accounting
- 67%** Report water risk assessment
- 60%** Report a water policy
- 26%** Engage their own suppliers

Manage Supply Chain Impact

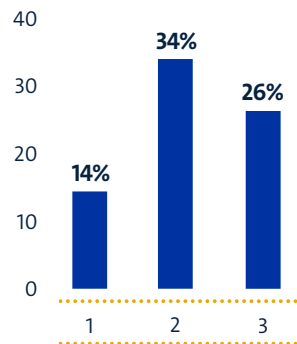
Through Life Cycle Analysis

GM uses life cycle analysis (LCA) to better understand the activities of our more than 18,000 suppliers worldwide. Purchased goods and services are our second-highest source of emissions and include the life-cycle emissions from parts purchased from our suppliers.

LCA combined with extended input/output analysis allows us to assess suppliers by industry and by tier to identify where the greatest environmental impacts in our supply chain occur and prioritize our resources. It also helps us monitor and manage sustainability trends within our supply base as automotive technologies change.



GHG Impact by Tier



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.

# TALENT


ASPIRATION: Realize Everyone's Potential



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What We Aspire To:  
Realize Everyone's Potential

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Our Management  
Approach to Talent

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What We Measure

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Actions We're Taking

- 111 Push the Envelope for Gender Equality
- 112 Provide GM Take 2 Program
- 113 Build an Innovative Culture
- 114 Support Employees During Time of Career Transformation
- 114 Honor Diversity Across GM
- 115 Live Our Responsible Employer Philosophy
- 116 Continue Our Commitment to Veterans
- 116 Show Support for Inclusive Legislation
- 117 Empower Women at GM China

# What We **ASPIRE** To:



## Realize 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 employee behaviors aligned with our values, 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 customers' needs.

# Our MANAGEMENT Approach to Talent



## Talent Acquisition

The hiring and retention of top talent is always a strategic priority and, increasingly, a challenging one. Continued strength in the economy and a heated job market mean that the best-qualified candidates are likely entertaining multiple job options. 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 also leading companies from the technology sector.

### TOPICS DISCUSSED IN THIS SECTION

Talent Acquisition

Benefits and Wellness

Talent Development

Talent Engagement

An Inclusive Culture

Labor Relations

Our recruitment efforts are often the responsibility of internal talent acquisition teams, who we believe are best able to convey GM's strengths and stories in a personal, engaging way. We reach out to prospective employees via social media and bring our purpose to life with the Made for More Employee Value Proposition.

Colleges and universities remain an important source of talented recruits. To build connections with students, we sponsor and partner with numerous universities across the country. We also are the only automaker to partner with SoFi, an

online personal finance company, to help eligible U.S. employees refinance their student loans. In addition, the Take 2 internship program for parents, caregivers and/or trailing spouses with backgrounds in engineering, manufacturing and other technical areas provides a valuable reentry point for individuals who have spent time out of the job market.

## Benefits and Wellness

Benefits that help new hires balance their jobs with other aspects of their lives increase GM's appeal. For example, our paid parental leave applies to all U.S. salaried employees, offering mothers, fathers and





(Cont.)

adoptive parents two weeks of paid leave in addition to the six to eight weeks allowed for birth mothers. Birth mothers are also eligible to apply for up to two years of Dependent Care Leave, which, while unpaid, provides a job guarantee for up to one year.

GM places more emphasis on accomplishing work-related tasks than on spending a certain number of hours in the office. This improves employees' work-life balance and enables them to address personal needs while still completing their work. In job assignments that are compatible, and with leadership approval, we allow flextime scheduling to accommodate individuals who prefer to start their workday early, as well as those who have reasons for working late. GM also allows telecommuting arrangements through which employees complete work away from a GM worksite and connect with their coworkers through email, telephone and web meetings. This can be an effective work arrangement for individuals who face a long commute between their home and worksite, or those who have personal responsibilities that require their presence at home for specific periods of time.

Health and well-being programs, such as on-site fitness facilities and a health concerns hotline, also help us both attract talent and reap the benefits of a healthier workforce.

The LifeSteps employee wellness program helps employees take an active role in their health. It provides U.S. salaried employees and their eligible family members with a broad range of tools for health education, risk identification, personal coaching, goal setting and tracking. Users can access this information using a dedicated program website and receive monthly communications on health topics such as nutrition, fitness and stress management.

When employees achieve agreed-upon objectives for a healthy lifestyle, such as providing certification of an annual preventive physical exam, they can receive cash incentives and/or Health Savings Account

contributions. In 2018, 83 percent of eligible employees received this LifeSteps incentive.

**Talent Development**

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 retention and development. Offering competitive benefits and promoting work-life balance further allows us to retain employees and enables the greatest possible returns on our investments in talent.

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 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. Our Take 2 program for professionals returning to the workplace after time away helps level the playing field for individuals, often women, who are balancing careers along with other priorities. This program emphasizes the value of skills gained outside traditional workplace settings.

**Talent Engagement**

GM's approach to employee engagement is simple: Generate a positive work environment to drive long-term success by creating a place where employees

Hired  
**3,750**  
 internal  
 candidates,  
**56%**  
 of all new hires



(Cont.)

feel inspired to do their best work and feel valued for doing it. 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. Today, we measure performance against our seven GM behaviors for employees.

The GM Recognition program reinforces our cultural behaviors and is used to recognize employees who demonstrate any one of our seven behaviors in their daily work. Using an online platform, fellow employees and leaders can make the recognitions and provide certain rewards for living our values and building our culture and for outstanding work.

We know that top talent is attracted to companies that are recognized externally for being among the best or most admired in the world. 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.

## Upholding Our Values with Zero Tolerance for Discrimination

Everyone at General Motors is expected to uphold a set of values that are integral to the fabric of our culture. That culture is predicated on an environment that is safe, open and inclusive—where we can all show up to work and contribute fully, free from fear. We have zero tolerance for any behavior that does not live up to these values.

This includes the allegations of racial discrimination at our Toledo Transmission plant. GM is taking this situation very seriously and has promptly investigated any allegations raised at the facility. In May 2018, we shut down the line and conducted antiharassment and antidiscrimination training for all Toledo employees. We also provided training to over 50,000 manufacturing employees across our U.S. sites and encourage employees at every level to report unacceptable behavior at work.

The actions of one or a few do not represent the people of Toledo Transmission or of GM. By remaining vigilant and refusing to tolerate this behavior, we will drive harassment and discrimination out of the workplace.



- 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.

We measure engagement through our global Workplace of Choice survey, which includes both salaried and hourly workers. A key metric associated with this survey is the percentage of employees who participate, which has shown steady improvement and at 87% for our salaried employees is above best-in-class. Together with our hourly employees, more than two-thirds of our total workforce voluntarily participated in the survey to share feedback and perspective on GM as their employer of choice. We strive for continuous improvement in engagement scores with a goal to score equal to or better on the biennial employee engagement survey. In recent years we have seen a dramatic increase in engagement scores among all employees, with results approaching the top quartile of companies. This improvement is underscored by GM's inclusion among Achievers 50 Most Engaged Workplaces, the only original equipment manufacturer to make the list.

### **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.

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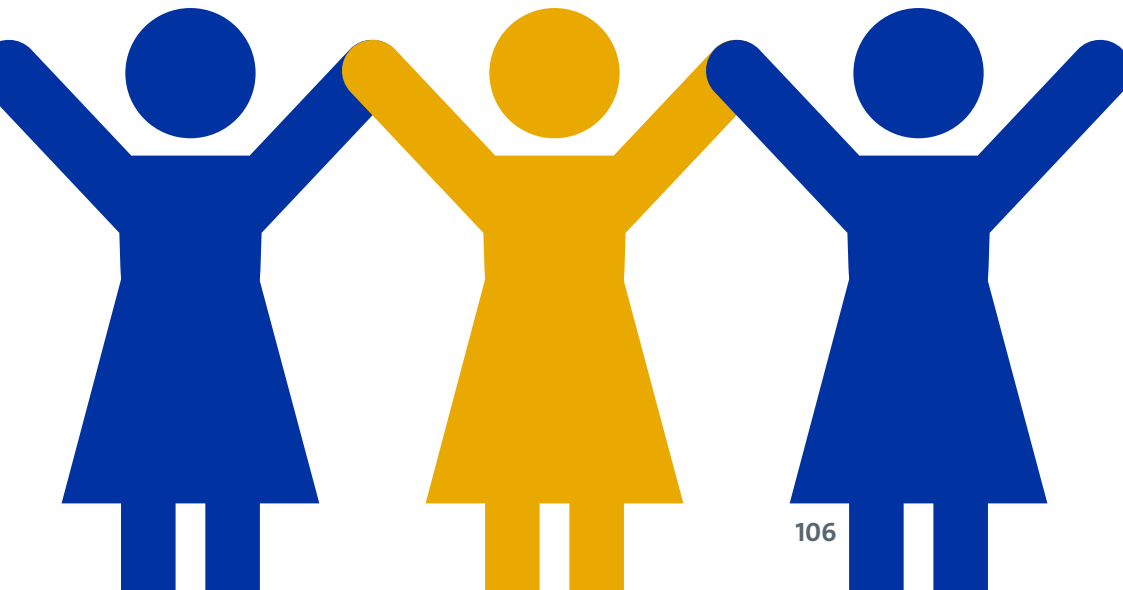
Not only do these wide-ranging outreach efforts help us build the type of workforce we all desire, but they also serve an important business purpose. A McKinsey & Company study found that companies that are demographically diverse are far more likely to outperform their less diverse industry peers. We also 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. For example, while women make up a relatively small percentage of auto industry executives, they influence up to 85 percent of vehicle buying decisions. Having more women in our workforce allows us to better understand and speak to this critical demographic. 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.

While we celebrate our differences, GM employees are united by a set of common values and behaviors that guide all we do. Alignment with GM behaviors is considered in performance reviews and goal plans for all employees, allowing us to build a more high-performing company culture.

GM has long been a global leader in advocating for women's equality in the workplace, with women in 34.4 percent of our top management positions. We are signatories to the Equal Pay Pledge, which 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' protected categories, including 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. GM conducts gap analyses on an ongoing basis to identify any pay discrepancies and make adjustments whenever discrepancies are found.

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 the 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. In addition, GM's diversity initiatives are routinely reviewed with the executive leadership team and the Board of Directors.



Women represent  
**34%**  
 of our top  
 management  
 positions



### **Labor Relations**

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 28 unions globally, representing approximately 63 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.

We manage our labor relations regionally, with a global focus. The labor relations responsibility is held by 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 quarterly meetings between our CEO and UAW leadership. 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 local unions. All of these relationships assist in being able to make adjustments as needed due to schedules, economic swings or product decisions. GM leadership devotes time to work productively with our union partners. This spirit of collaboration continues even during challenging times. During GM's workforce transition, announced in 2018, we were able to offer transfer opportunities to nearly all represented employees affected. We worked closely with our union partners to offer these opportunities, as well as retraining and skills-building programs for those who chose not to relocate within GM.

The way we manage labor relations is evolving as the nature of unions and the interactions among them evolve around the world. We work 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.

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 anticorruption. 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.

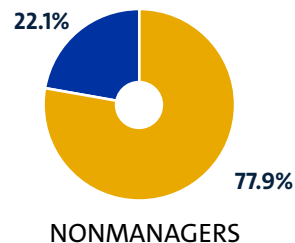
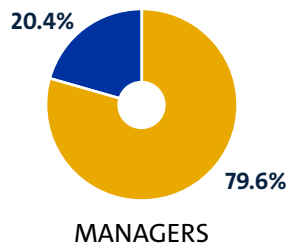
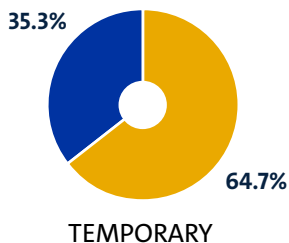
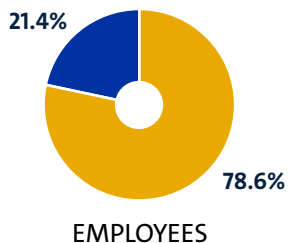
**~63** percent of  
our global workforce is  
covered by collective  
bargaining agreements

# What We MEASURE



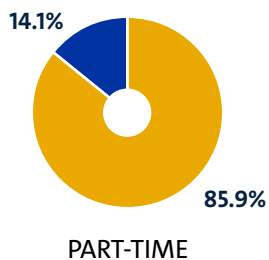
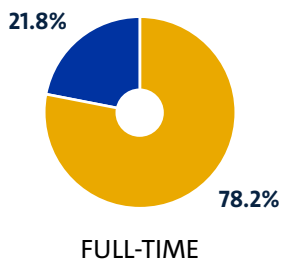
## Global Workforce by Type

● Men ● Women



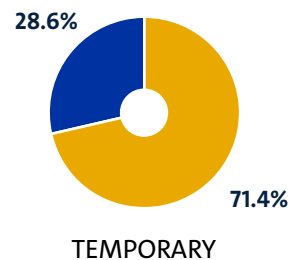
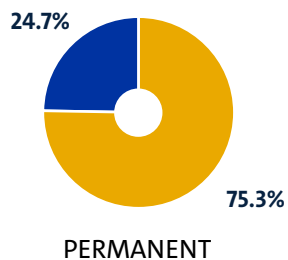
## Employees by Employment Type

● Men ● Women



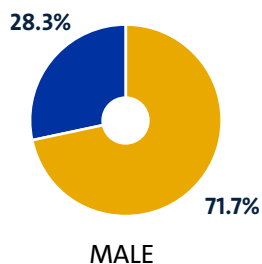
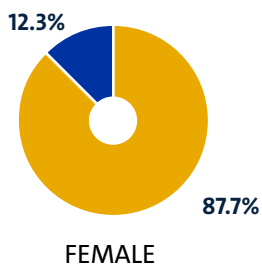
## Employees by Employment Contract

● North America ● International



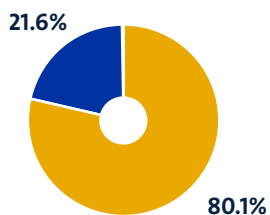
## Global Workforce by Gender

● North America ● International



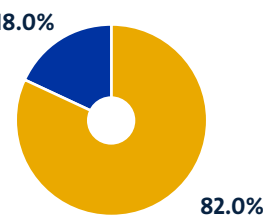
## Top Management Positions

● Men ● Women



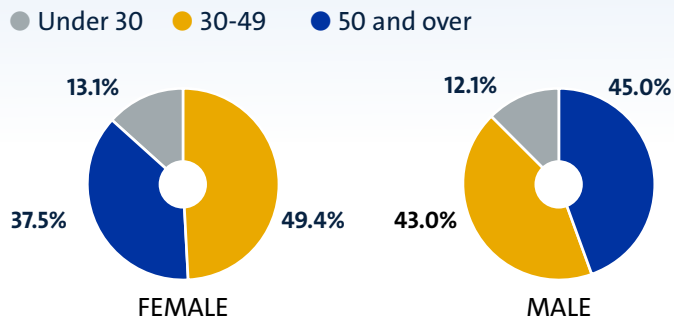
## Technology Positions

● Men ● Women

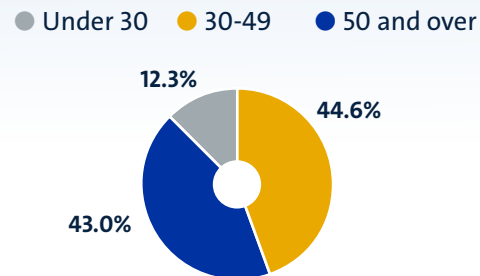


**TALENT: Measure**

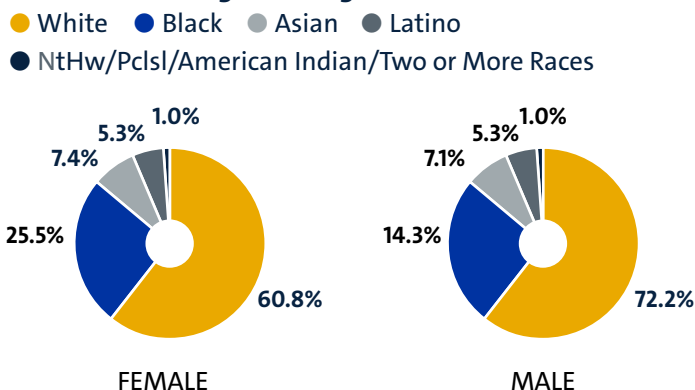
**U.S. Workforce by Age Group**



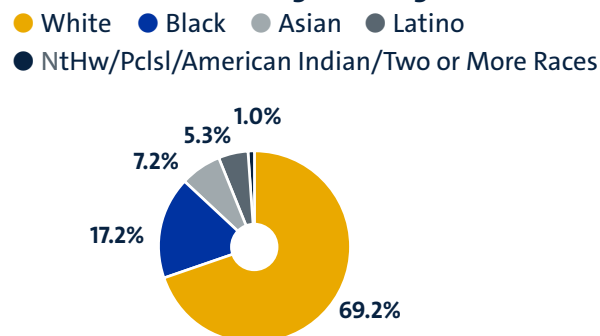
**Total U.S. Workforce by Age Group**



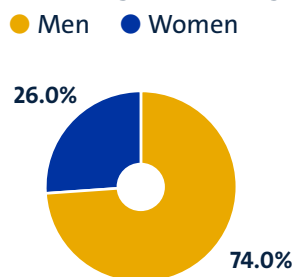
**U.S. Workforce by Ethnicity**



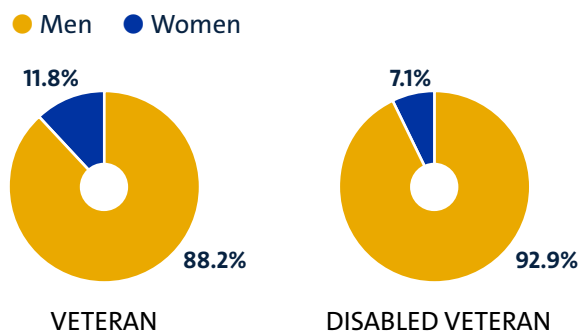
**Total U.S. Workforce by Ethnicity**



**U.S. Workforce Self-Identified as Having a Disability**



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



**2018 NEW HIRES**

**18,310<sup>1</sup>**  
Total

**6,090<sup>1</sup>**  
Women

**100<sup>2</sup>**  
Disabled

**333<sup>3</sup>**  
Veterans

<sup>1</sup> Global <sup>2</sup> Brazil & U.S. <sup>3</sup> U.S. Only

**11**  
Employee Resource Groups (ERGs)

**1 in 3**  
Employees participates in an ERG

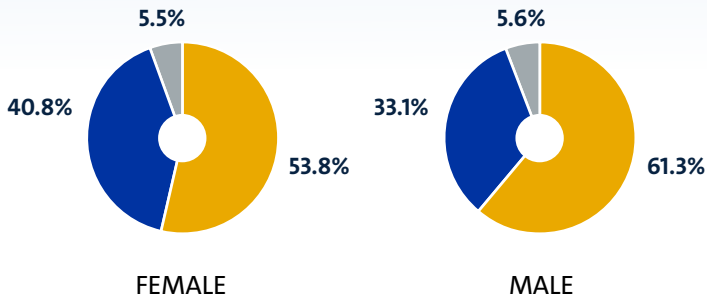
**100%**  
Score on 2018 Disability Equality Index

**#1**  
Company for gender equality—Equileap

**TALENT: Measure**

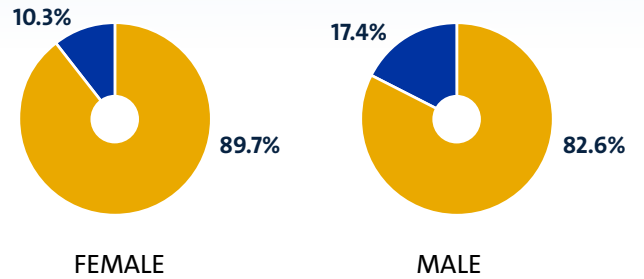
**Global Hires by Age**

● Under 30 ● 30-49 ● 50 and over



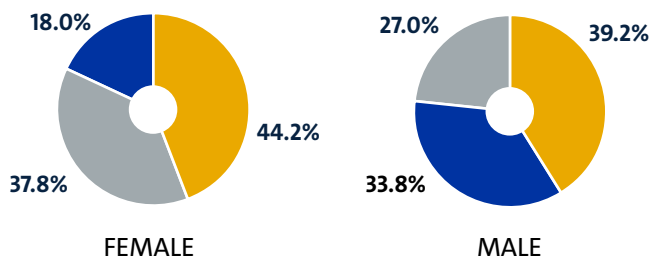
**Global Hires by Region**

● North America ● International



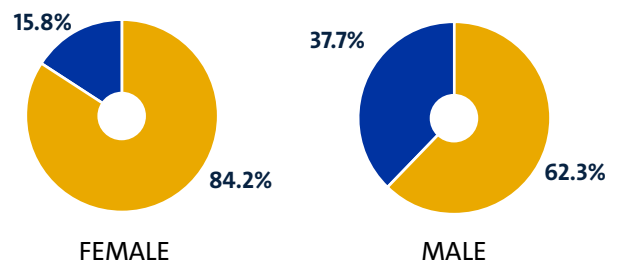
**Global Attrition by Age**

● Under 30 ● 30-49 ● 50 and over



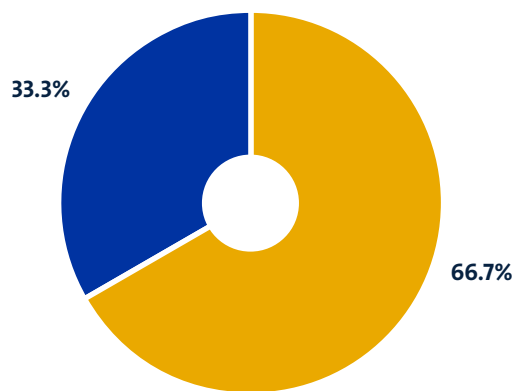
**Global Attrition by Region**

● North America ● International



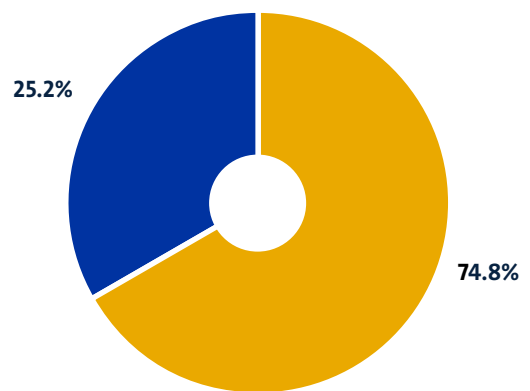
**Global Hires by Gender**

● Men ● Women



**Global Attrition by Gender**

● Men ● Women



# ACTIONS We're Taking



## Push the Envelope for Gender Equality



Equileap, a leading organization providing data and insights on gender equality in the corporate sector, named General Motors its No. 1 company in the world for gender equality in the workplace in 2018. We also earned No. 2 on Equileap's ranking of commitment to gender equality on the S&P 100 Index. Among the reasons we stand atop the lists: we are one of just two global businesses that have pay equality in top, middle and bottom bands as well as no overall gender pay gap across the company. We also have policies to combat sexual violence at work, measures to improve supplier diversity and offer flexible hours and flexible work locations to our employees. GM was also named to the 2019 Bloomberg Gender-Equality Index, which recognizes public companies' commitment to transparency in gender reporting and advancing women's equality.

We are currently the only company among the largest 20 in the U.S. that has both a female Chief Executive Officer and Chief Financial Officer. Dhivya Suryadevara was recently named GM's CFO in 2018 and has been with the company since 2004.



*Dhivya Suryadevara, CFO*

## Provide GM Take 2 Program

Solving tomorrow’s mobility challenges will require wide-ranging perspectives and experiences. The Take 2 program helps us discover and include individuals from an untapped group: experienced professionals who have taken a career break and are ready to rejoin the workforce. This paid training and professional development program is for those who have taken a two-year or longer break from their careers. The career “gap” for those participating ranges from as little as two years to as many as 25 years.

The 12-week paid program serves as an “audition” that prepares experienced interns for a full-time career in one of several fields at GM through training, professional development and networking opportunities. The GM Talent Acquisition team has created a new, formal designation of employee type for people who join GM through this program. “Relaunchers” receive a customized employee onboarding experience, including a specialized online portal and orientation, a cross-functional cohort immersion day and mentors who support them throughout their internships.

Take 2 is currently available to U.S. applicants, and we plan to take the program global in 2019.

**2.5 million**   
Women in U.S. have STEM degrees

**1 in 4**   
Have left technical careers to care for families

### The Take 2 Program



**12**  
Week program



**Partners:**  
Society of Women Engineers  
iRelaunch



**8,000**  
Applicants since 2016



**86%**  
Job offer rate upon  
program completion



**99%**  
Acceptance rate



*“At first it was intimidating to be out of the workforce for so long and return to new technology. The workplace has changed drastically, and I was surprised by the flexibility — I can now take my tools with me and work from wherever is most convenient for my work-life balance.”*

Annette Diver, GM senior process improvement leader and Take 2 participant



TALENT: Act

**Build an Innovation Culture**

No one knows innovation like GM Chairman and CEO Mary Barra and Pam Fletcher, GM's Vice President of Global Innovation and Research & Development Laboratories. The two women sat down to discuss GM's innovation culture and shared advice that anyone at GM can apply to develop and scale up new ideas.



**5 INSIGHTS ON INNOVATION**

**1 Know that innovation can come from anywhere.**

GM people are innovating in all areas of our business, from finance to new processes to traditional systems in the vehicle. Our goal is to unlock new opportunities in areas where we're not competing today.

**2 Start small and grow.**

It's often best to begin by identifying a pain point, proposing a solution and then creating a minimum viable product. Next, test, learn and iterate with intended users. This approach allows GM to hone a solution before introducing it to paying customers.

**3 Be willing to experiment.**

Disruption doesn't happen without experimentation, and the truth is that some experiments work—and others don't. Nevertheless, every opportunity provides lessons that can be applied later down the road.

**4 Think differently.**

As GM works toward our zero/zero/zero vision, we require new skill sets and innovative thinking from unexpected places. Design thinking and curiosity are important tools that will help us accomplish this vision.

**5 Look to our history.**

GM's legacy of defining markets and leading our industry has always been due to teamwork and creativity. As we look over the horizon for new ways to delight our customers and improve the world, it helps to look back on this proud past.



## Support Employees During

## Time of Career Transformation

In late 2018, we announced several actions that GM is taking to reduce costs and improve the performance of our business, including restructuring our workforce. These decisions impacted people and communities, and we did not take that lightly. While select plants are unallocated for 2019, we have been able to provide job opportunities for all of the hourly employees in the U.S. and the plants impacted by the changes.

We have found positions within GM for all 2,800 impacted hourly workers, and to date 1,525 employees have volunteered for these openings. The jobs are at plants with vehicles that are in growth segments and will support new launches in 2019. One of these plants is Bedford Powertrain in Indiana, where we are partnering with Vincennes University to train United Auto Workers apprentices in advanced manufacturing

skills such as metallurgy, blueprint reading and computer numerical control machining.

For those who choose not to relocate within GM, we are providing outplacement services, including job search assistance, career counseling, resume writing and interview skills training. In GM Canada, we recently announced an expansion of our stamping plant in Oshawa that will allow for an addition of 300 jobs. We are also supporting the impacted plant employees through retraining programs with local colleges and working with their dealers and more than 20 local employers who have expressed interest in hiring these experienced employees. We have worked with the Canadian government to find jobs for all affected employees and continue to work with our unions and affected employees to find opportunities that work best for each individual.

## Honor Diversity Across GM

Our culture is strengthened by diversity and inclusion. From recruiting and retaining diverse talent to engaging in employee resource groups (ERGs), we are enabling better employee and customer connections. In 2018, we took part in numerous activities to celebrate what individuals from all backgrounds bring to our team:

- As part of our commitment to the CEO Action for Diversity & Inclusion, GM joined more than 150 other organizations in taking a day to create an open dialogue about diversity and increase understanding among our colleagues. To allow employees and contractors from around the world to join, we held a virtual town hall via Yammer, with senior leaders in human resources, manufacturing and communications responding to employee questions.



### Recognizing Our Culture of Inclusion

**GM was named to Black Enterprise's list of 50 Best Companies for Diversity 2018. In addition, 20 GM North America employees were recognized with the Modern-Day Technology Leader Award at the Black Engineer of the Year Awards (BEYA) STEM Conference.**

- The General Motors African Ancestry Network (GMAAN), in partnership with Cadillac, hosted its 13th annual Black History Month Program, drawing approximately 1,000 people to Detroit. The event included a film festival, an awards ceremony and appearances by entertainers and musical guests.
- Women of Global Product Group & Cadillac, a branch of the GM Women ERG, hosted a fireside chat at the Global Technical Center that brought together GM women to connect, share stories and discuss strategies for successfully cultivating work-life balance.
- GM PLUS, our ERG for LGBTQ employees and allies, hosted a series of TED workshops on LGBTQ issues. Volunteers also took part in Pride parades in Detroit and, for the first time, in Canada. PLUS members raised the LGBTQ flag and transgender flag at every GM Canada site to raise awareness of issues that trans individuals face in the workplace.

## Live Our Responsible

### Employer Philosophy

GM's people will always be our greatest strength. Every job is important, whether forming sheet metal for our trucks, manufacturing engine blocks, assembling a next-generation electric vehicle, or picking parts for aftermarket sales. The training and development we invest in our people mean that they are not easily replaced. Whenever possible, our goal is to keep highly skilled people at GM, setting both them and our company up for the long term.

One way we're doing this is by adhering to a responsible employer philosophy, which includes commitments to create job opportunities, pay workers fairly, ensure safety and promote wellness. For example, GM pays a living wage and offers quality health care coverage to all our employees, 401k plans with matches and paid time off to cover vacations, sick leave, parental leave and military leave. We also protect workers from harmful and hazardous conditions by adhering to strict health and safety standards.

Beyond these fundamentals, we provide opportunities for career advancement, skills development and educational attainment through structured training programs and programs to reimburse college expenses. This approach is particularly important during times of workforce transition. As our products change and our operations evolve, we do all we can to support employees. When workers are displaced because of a plant production adjustment, we provide

opportunities at other GM facilities. If they choose to move, relocation packages are available to help them with their expenses, as well as allow them to retain their seniority and benefits. The same is true regarding workers at GM plants that will be unallocated in the near future. We have positions for all U.S. hourly employees impacted by this decision. In Canada, we worked with local organizations to identify thousands of open positions at other manufacturing businesses and connected affected employees with these opportunities. We offered relocation services to employees who accepted other jobs within GM, and outplacement services, like resume writing and interview skills training, to those who chose to seek jobs elsewhere.

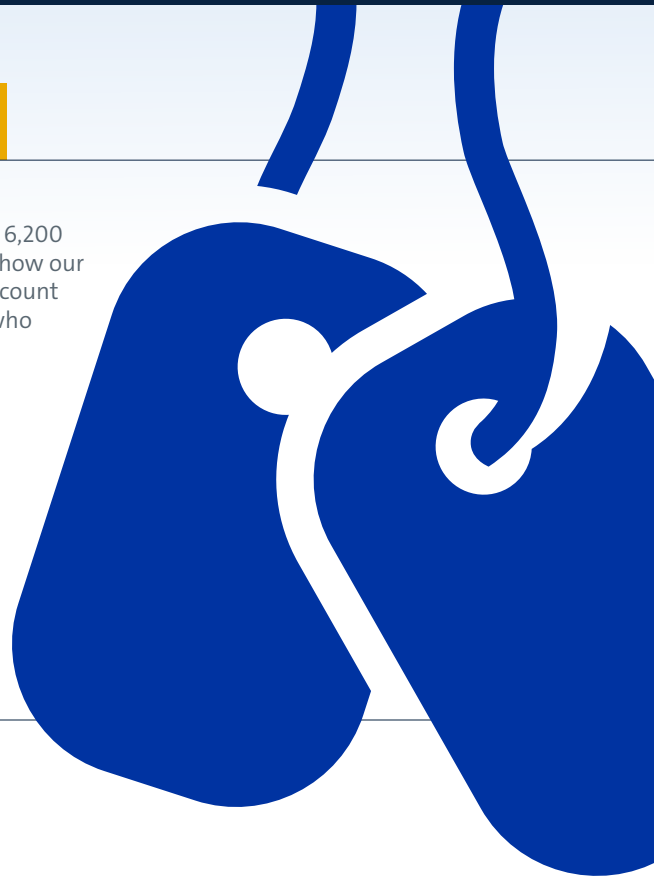
People are taking notice of GM's efforts to be a responsible employer. We were recently named—for the second year in a row—to the JUST 100, a list developed by JUST Capital that ranks companies on the issues that Americans care about. The criteria for inclusion on the JUST 100 come directly from a survey of more than 80,000 Americans, and the number-one priority for survey participants is that they want to see is fair treatment of workers from the nation's biggest businesses. Our inclusion on the list, and the fact that GM's ranking increased 56 positions to number 14 between 2017 and 2018, is a useful barometer to demonstrate that when it comes to people, GM is doing things right.



## Continue Our Commitment to Veterans

GM and our brands are longtime supporters of our armed forces, with more than 6,200 veterans and 92 active servicemembers currently working for the company. We show our appreciation for their service in a number of ways, including the best military discount program of its kind for active duty, reserve and retired members of the military who purchase GM vehicles.

We also donate to causes that support and honor veterans, such as the Stephen Siller Tunnels to Towers Foundation and the National Native American Veterans Memorial, which will be unveiled in 2020 in Washington, D.C. For Veterans Day 2018, employees at facilities across the country showed their support by writing letters to overseas servicemembers, hosting special meals for veteran employees and more. In recognition of our efforts, GM received two awards for the fifth year in a row: Military Times' Best for Vets designation and G.I. Jobs' Military Friendly® for veterans and their spouses. GM is the first and only automotive OEM to be recognized in these categories.



## Show Support for

## Inclusive Legislation



GM's commitment to the LGBTQ community is at the core of our company's policies. We have offered same-sex domestic partner benefits for more than a decade and extended same-sex spousal benefits to married LGBTQ couples in 2012. We also have a strong antidiscrimination policy that protects LGBTQ employees at GM. Beyond these measures designed to increase inclusion for our own employees, we recognize the need for a federal standard that guarantees these rights for LGBTQ individuals everywhere. That's why GM has signed the Business Coalition for the Equality Act—becoming the first and only automaker to do so.

The Equality Act would provide the same basic protections to LGBTQ people as are provided to other protected groups under federal law, not only in the workplace but also in housing, credit and jury service. This bipartisan bill was introduced in both the U.S. Senate and House of Representatives in 2019, and upon introduction had the most congressional support of any piece of pro-LGBTQ legislation in history. GM is proud to join nearly 200 other companies in supporting this important bill.



## Empower Women

### at GM China

Women account for 36 percent of GM's employees in China, our company's largest market. They include leaders of several key functions, from Engineering to Strategy to Human Resources, and are making an impact across the business at GM and our joint ventures. GM has made the hiring and professional and personal development of women a long-term priority.

With the full support of the company's leadership, GM WOMEN CHINA — an organization made up of female employees to promote diversity — has championed several programs. They include Women in Action, which gives employees an opportunity to discuss topics of relevance to women and build connections across departments; silent auctions and charity sales to raise funds for the support of disadvantaged high school and university students in China; and special auto show tours to help our employees become more knowledgeable ambassadors for our products.

GM executives have been involved in notable public activities such as WeForShe hosted by the American Chamber of Commerce and the Ladies Who Tech Convention in Shanghai. They have addressed the importance of female involvement in STEM, while sharing the role of women in many of GM's achievements across China.

In recognition of our company's local and global efforts to support female inclusion and advancement, GM received the Women Leadership Innovation Award at the Women-Reform-Leadership Forum hosted by Shanghai Daily. It shows how GM is successfully taking the lead among corporations in supporting diversity in China.



# GOVERNANCE & ETHICS

ASPIRATION: Full Transparency & Integrity – Always



**119**

What We Aspire To:  
Full Transparency  
& Integrity – Always



**120**

Our Management Approach  
to Governance & Ethics



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Actions We're Taking

- 125 Remain Tops in Transparency
- 126 Plan for Global Warming Scenarios
- 127 Keep Our Code of Conduct Current
- 128 Communicate with Employees on Emerging Issues
- 128 Celebrate Our Ethical Culture
- 129 Reinforce Employee Knowledge Through Training
- 130 Create Training That Resonates

# What We **ASPIRE** To:



## 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. That responsibility begins at the highest level with our Board of Directors. This highly engaged body, with a diverse range of expertise, drives effective oversight of our strategic priorities, operations and actions as an organization. The Board encourages healthy, constructive debate and regularly challenges the company to do what is right and make the tough decisions essential to move us forward in times of significant change and transformation.

# Our MANAGEMENT Approach to Governance & Ethics



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. 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 is committed to sound corporate governance structures and policies that enable GM to operate its business responsibly and with integrity, and to position GM to compete more effectively, sustain its success and build long-term shareholder value.

 **TOPICS DISCUSSED IN THIS SECTION**

- [Board Structure](#)
- [Governance and Corporate Responsibility](#)
- [Risk Management](#)
- [Ethics](#)
- [GM's Code of Conduct](#)

### **Board Structure**

The Board is comprised of 11 members, all but one of whom—Chairman & CEO Mary Barra—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 and whether an executive or independent director should be Chairman. 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](#), specify the duties of the Lead Director and independent directors.






**GOVERNANCE & ETHICS: Manage**

(Cont.)

The Board has the following standing Committees: Audit; Cybersecurity and Risk; Executive; Executive Compensation; Finance; and Governance and Corporate Responsibility. 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:

- Annual election of all directors
- Majority vote with director resignation policy for directors in uncontested elections
- Annual review of the Board's leadership structure by the independent directors
- Independent Lead Director empowered with robust and clearly delineated duties
- 10 out of 11 directors are independent
- Regular executive sessions at Board meetings without management present
- Key Board committees composed exclusively of independent directors
- Directors' unrestricted access to management and independent advisors
- Active shareholder engagement process, including Director-Shareholder Engagement Policy
- Proxy access for shareholders
- Shareholder right to call special meetings
- One-share, one-vote standard
- No poison pills or dual-class shares



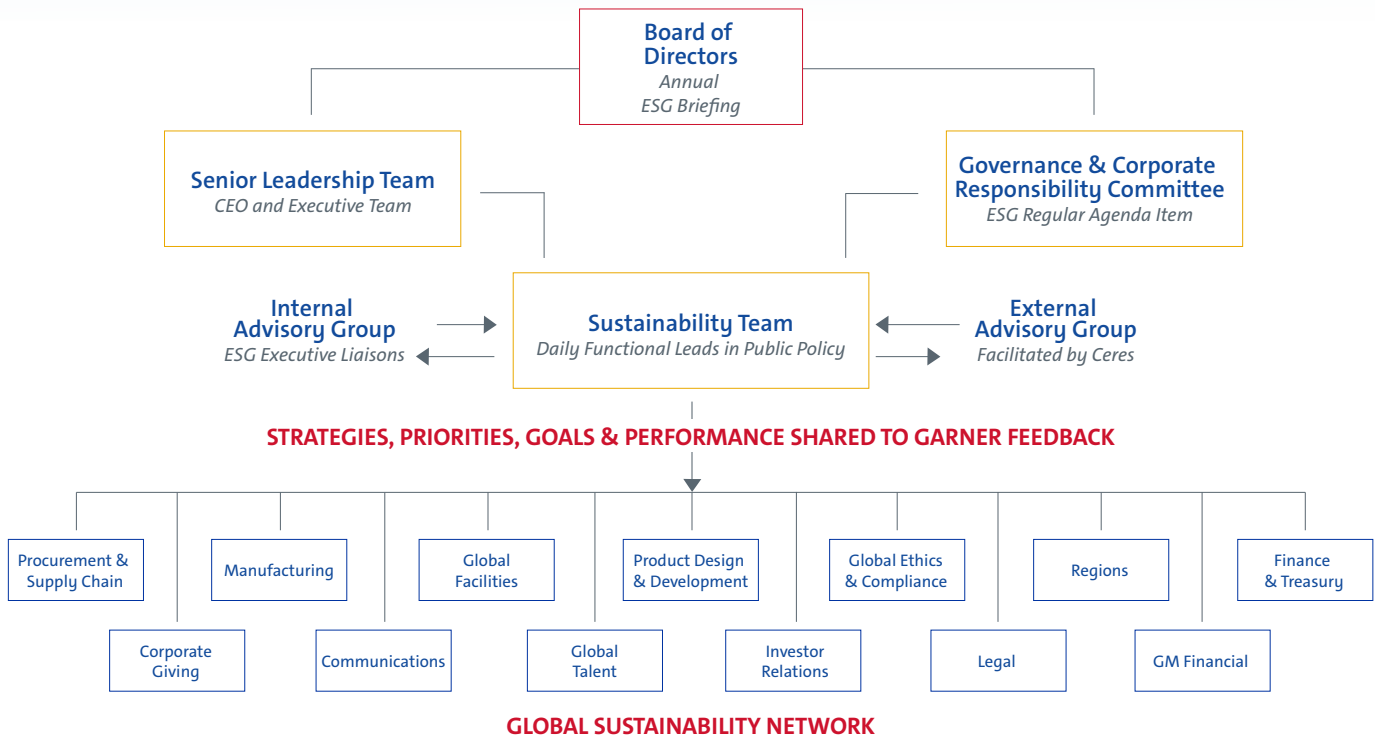
In 2016, the Board adopted a director-shareholder engagement policy. Since the beginning of 2019, members of the Board, including our Independent Lead Director, have met in person with shareholders representing approximately 21 percent of shares outstanding. Additionally, members of management frequently met in person or telephonically with shareholders 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. GM is a signatory to the Commonsense Principles of Corporate Governance, which can be found at [www.governanceprinciples.org](http://www.governanceprinciples.org).

### ***Governance and Corporate Responsibility***

The Board is committed to overseeing the company's integration of environmental, social and governance (ESG) principles throughout the enterprise. The oversight includes frequent ESG strategic discussions by the Board's Governance and Corporate Responsibility Committee. GM is fortunate that several of its Board members have extensive business experience in managing ESG- and climate-related issues, such as transitioning from high- to low-carbon-emitting technologies or managing environmental impacts within the supply chain. 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.

GM's Short-Term Incentive Plan incorporates an individual performance component, which, for certain positions, includes sustainability measures. Please see GM's 2019 Proxy Statement for further discussion of individual performance results that had a positive impact to ESG 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.

# GENERAL MOTORS ESG Governance



## Risk Management

The Board has the overall responsibility for risk oversight, with a focus on the most significant risks facing the company. While GM does not follow the precautionary approach, it does have a comprehensive risk management plan in place. Effective risk management is the responsibility of the CEO and other members of management, including the senior leadership team. Our Board implements its risk oversight function both as a whole and through delegation to Board Committees, particularly the Cybersecurity and Risk Committee. Each of the Board Committees is responsible for oversight of risk management practices for categories of risks relevant to its functions. Our Board recognizes that cybersecurity is critical to GM's operations—particularly as management continues to execute on its future mobility strategies, such as self-driving vehicles and connected-vehicle technology. The Board believes that its structure for risk oversight provides for open communication between management and the Board and its Committees.

All standing committees other than the Executive Committee 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 and lobbying expenditures.

## Ethics

The foundation of GM's business is our vision—seeing a world with zero crashes, zero emissions and zero congestion; our core values—customers, excellence, relationships and truth; and our seven core behaviors—Think Customer, Innovate Now, Look Ahead, One Team, Be Bold, It's on Me, and Win With Integrity. They drive our business decisions and activities worldwide and are our road map for sustainability.

An ethical business starts at the top. Chairman & CEO Mary Barra and other members of our senior leadership team regularly issue messages to all employees emphasizing the importance of our Code of Conduct and their desire that 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. Our Board also completes GM's Code of Conduct training.

## GOVERNANCE & ETHICS: Manage

### **GM's Code of Conduct**

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

Every year, all eligible salaried employees are required to review the Code of Conduct and complete the Code of Conduct Training. At the end of the training, they are required to certify that they agree to comply with the policies contained in the Code, and that they have reported any violations of the Code and any vehicle or workplace safety issues. In 2018, GM achieved a 100 percent completion rate among eligible salaried employees for its Code of Conduct Certification Program.

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, anticorruption and interactions with government officials. Employees are encouraged to report any potential concerns of misconduct first to their manager. If they are uncomfortable going to their manager, they may contact their local leadership, HR or Labor representative, the Global Ethics and Compliance Center, or Legal Staff. 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 or email. Reports may be made anonymously, where permitted by law; however, employees are encouraged to identify themselves for more efficient follow-up.



Until November 27, 2018, reports made to the Awareline were classified into one of two categories. Category 1 reports involved misconduct, including, among other things, allegations of fraud, information loss, harassment, retaliation, theft or discrimination. Category 2 reports were generally comprised of employee/workplace issues, including customer-service complaints, employee-benefits issues and human resource-related grievances. In 2018, GM received 3,569 reports to the Awareline, and approximately 19 percent were classified Category 1. After November 27, 2018, we transitioned to a new case management system, and no longer use the Category 1/Category 2 distinctions.

For potential vehicle safety issues, a special Speak Up For Safety hotline was established in May 2014. Up until September 2018, GM employees and contract workers were also able to communicate with the independent Monitor assigned to GM anonymously, as permitted by law, or otherwise at any time. The Monitor maintained an independent toll-free phone number for reporting any alleged violation of law or unethical conduct, as well as a globally available online web form. The Monitor's role supplemented, but did not replace, existing established global employee reporting tools, such as GM Awareline and Speak Up For Safety. The DPA was successfully concluded on September 17, 2018, and the Monitor hotline was disconnected.

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, and also added non-retaliation scenarios to the live "What Would You Do?" course available to managers.

To ensure the effectiveness of our Code of Conduct, we periodically use independent firms to evaluate our compliance program. GM is currently in the process of implementing several of the recommendations provided. We also have regional compliance officers and other compliance personnel located throughout GM who provide guidance to employees and answer ethics and compliance questions. In addition, our Code clearly publicizes in multiple places a list of contact points, which include human resources, security, legal and audit staff, to answer employee questions.

# What We MEASURE



## ETHICS TRAINING

**76,565**

Employees, contract workers and suppliers completed

**5**

Required courses

**425,468**

Total online courses delivered

**43,818**

Other online compliance courses taken by GM employees

**100%**

Of eligible salaried employees completed Code of Conduct certification

**13,872**

In-person compliance training modules delivered directly from the compliance group

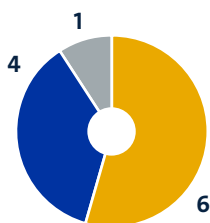
## BOARD COMPOSITION

● Women ● Men



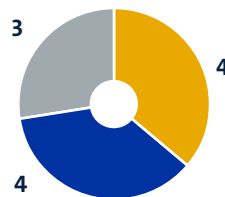
GENDER

● 50's ● 60's ● 70's



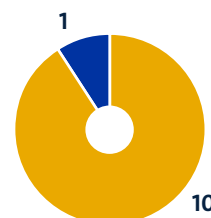
AGE

● 6-10 Years ● 3-5 Years ● 1-2 Years



TENURE

● White ● African American



ETHNICITY

**62 years**

Average age

**4.8 years**

Average tenure

**10**

2018 Board meetings

**29**

2018 Committee meetings

**96%**

2018 Board attendance

Average director attendance at Board and committee meetings was 96 percent. Each director standing for reelection attended at least 75 percent of the total meetings of the Board and Committees on which he or she served in 2018.

# ACTIONS We're Taking



## Remain Tops in Transparency

GM has been named the fourth most transparent S&P 500 company for ESG disclosure by Agenda, a corporate governance newsletter. Agenda commissioned stock-ratings company HIP Investor to identify the S&P 500 companies that most fully — and least fully — report these important metrics that connect with financial value creation and risk reduction. A HIP analyst evaluated which companies had higher transparency by analyzing their CDP disclosures, company annual reports, corporate social responsibility reports, sustainability reports and the Thomson Reuters/Refinitiv database. From all of these sources, Nielsen gathered 300 raw ESG data points on items including water usage and efficiency, employee engagement and carbon emissions.



## Plan for Global Warming Scenarios

The integration of sustainability and climate change into our business continues to be a focus, and both have been incorporated into our risk management process. This places both topics at the forefront of daily decision-making throughout the company and ensures continuous management and evaluation at the highest levels of the company. As an example of this management, we recently addressed climate change risks and opportunities through a scenario planning workshop.

The workshop was based on a key assumption that the world is on a path by 2030 to limit emissions so that temperatures increase no more than 2 degrees Celsius. Sponsored by GM's corporate secretary and the head of GM's product portfolio planning, the exercise — led by Strategic Risk Management and Sustainability organizations — brought together a broad, cross-functional team, from public policy to global propulsion systems to business intelligence. Goals included developing and understanding a range of different world scenarios; identifying risks, opportunities and success factors for GM; and making recommendations for GM to analyze, prepare, adapt and act.

The group considered four different scenarios in a maximum 2-degree warmer world and walked through a three-step process. The first step was to explore uncertainties and then to define success in this future world. Helping to shape each scenario were questions such as, “*What types of regulation will govern the sector?*,” “*What will cities look like?*,” “*What are the mobility limitations of dense urban communities?*” and “*What sort of transportation modes and services, such as ride share, will be most accepted by consumers?*” The final step involved an analysis to determine what GM should be doing now to influence its future.

All four scenarios shared common themes. Within the vehicle market, for example, it was assumed that new passenger vehicles would be required to make faster and greater adjustments than other users of energy; significant changes in the vehicle ownership paradigm; and a decline in the proportion of single-person vehicle miles. Outside the transportation sector, we envisioned significant changes and investments in infrastructure, power grids and power sources; penalties and costs associated with manufacturing and supply chain emissions; and increased accountability in areas such as the mine-to-scrap life cycle of metal ore.



The exercise helped to clarify risks but also highlighted opportunities as well, many of which are already well underway at GM today. Some examples include:

- Adapting new business models aggressively, which is evident at Cruise and its push to commercialize autonomous technology in the near future.
- Launching new personal mobility services such as Maven.
- Responding to new energy vehicle regulations in China with the introduction of two new EVs in 2018.
- Focusing on new technologies by shifting capital resources and talent toward vehicle electrification programs.
- Prioritizing renewable power sources and zero carbon footprints for manufacturing of electric vehicles.

All of these moves require GM, as never before, to think like a market entrant rather than an incumbent and to experiment and then quickly scale new technologies, business models and services.

The workshop underscored the reality that the need to limit global warming is influencing consumer choices and brand perception today. Climate change concerns also are likely to drive new policy and regulations, as well as political and economic pressures to reduce emissions throughout the manufacturing value chain. And, the exercise validated the need for GM to continue to develop and sustain a comprehensive climate change strategy that addresses the concerns of all stakeholders, while allowing the business to transform.

## Keep Our Code of

## Conduct Current



GM's Code of Conduct, Winning with Integrity, is a cornerstone of our 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.

The Code of Conduct was updated in 2018 with GM's new company Value: Seek Truth. We added this to our existing Values of Customers, Excellence and Relationships. Seek Truth means we use facts and data as a foundation for respectful dialogue that ultimately leads to better, smarter decisions for the business and for our customers. Guided by these values, GM employees are working as one team, building a safer, better and more sustainable future.

This update builds on a redesign of the Code in 2017 to include more reader-friendly content, better examples and explanations and supplementary decision trees and graphics. While the core underlying GM policies continue to be reflected in the Code, it also includes new subject areas such as cybersecurity and human rights, and provides guidance on many issues, including safety, speaking up and non-retaliation. Further, each section contains links to related GM policies and resources that can help employees to speak up or ask questions.

## Communicate With Employees

### on Emerging Issues

Beyond distributing our Code of Conduct and requiring annual training on ethics- and compliance-related topics, we also share information about how to act with integrity in an informal manner throughout the year. For example, GM's Deputy General Counsel and Chief Compliance Officer, and others in GECC regularly publish articles on GM's intranet. Articles reinforce topics contained in GM's Code of Conduct, such as avoiding conflicts of interest, accepting gifts, and referring employees to individuals they can contact if they have questions or concerns.

In many cases, real-world examples of ethics violations at other companies provide teachable moments. An article about the 2017 data breach at Equifax allowed for a refresh on insider trading laws. An account of United Technologies Corporation's compliance failures offered a cautionary tale about the importance of not only avoiding corruption, but also speaking up when something doesn't seem right. By keeping ethical behaviors top of mind for all GM employees, we will continue to win with integrity in dealings with suppliers, governments and other third parties.

## Celebrate Our Ethical Culture

Doing the right thing is a significant responsibility for everyone at GM. That's why we take time out each year to focus on ethics and compliance. During the 2018 Ethics and Compliance Week, GM leaders shared messages on key aspects of compliance, emphasizing why all team members should be bold and report potential compliance issues.

The Global Ethics and Compliance Center (GECC) announced several challenges to encourage GM employees to live our values. For example, we reviewed employee recognitions submitted during the year for the behavior "Win with Integrity." Later in the year, we chose three Integrity Champions after reviewing more than 50 recognition submissions. Each Integrity Champion received 10,000 points through the GM Recognition program. GECC also challenged functions to have the most employees complete Corporate Required Training by a certain date. The winning team received a "traveling trophy" that they are allowed to display until the next winner is chosen the following year.



At GM we encourage ethical behavior year-round; the true purpose of Ethics and Compliance Week is to reinforce the importance of acting with integrity and being in compliance with policies, laws and regulations everywhere and every time we conduct GM business. Our commitment to compliance positively benefits our company's reputation and business results, creating a better place for all of us to work.





## Reinforce Employee Knowledge

### Through Training

Training is a critical aspect of fostering an ethical culture. In 2018, GM made significant updates to its Compliance Training and Certification program. We restructured the Corporate Required Training (CRT) program with five new courses, combining the annual Winning with Integrity Certification program with the training program. These changes were made in response to employee feedback. Having two separate programs—training and certification—was perceived as redundant and confusing, and some content in training courses was not relevant to all employees' job roles. Employees also wanted more consistent user interaction with the courses. Going forward, the courses will have a common look and feel, similar navigation procedures and consistent GM branding.

To develop the new training and certification program, we looked at the big picture of GM's risk profile. We identified four major areas that need to be emphasized every year: the topics found in GM's Code of Conduct, guidelines for protecting GM's informational assets, respectful workplace (anti-harassment, diversity, non-discrimination) and safety (including both product and workplace safety). These topics will be covered every year as part of CRT, but the courses will be updated every year with new content, new scenarios and new exercises.

CRT will also include courses on specific legal and regulatory risks, including Anti-Corruption, Antitrust, Data Privacy, Cybersecurity, International Trade and Information Lifecycle Management. These will be rotated in and out of CRT every two to three years and will use adaptive technology that tailors the courses to an individual's job responsibilities. Required training in 2018 included:

### 2018 Required Training

**GM CODE OF CONDUCT: WINNING WITH INTEGRITY**

Speaking up, non-retaliation, anti-corruption, gifts and entertainment and conflicts of interest

**GM INFORMATION SECURITY: "SMALL MISTAKES, HUGE IMPACTS"**

Cybersecurity, data privacy and social media

**GM PRODUCT AND WORKPLACE SAFETY TRAINING**

Product safety and workplace safety principles

**EXPORT AND SANCTIONS COMPLIANCE**

Principles related to international trade regulations

**WORKPLACE HARASSMENT: A GLOBAL PERSPECTIVE**

Principles relating to anti-harassment, non-discrimination, and diversity



## Create Training That Resonates



Shawn Rogers is Lead Counsel, Compliance Training and Communications within the Global Ethics & Compliance Center at GM. He explains what it takes to create a compliance program that does much more than check a box, but rather builds an ethical culture.

### In times of rapid change, it's tempting to lose focus on something like compliance training. What is GM doing to keep it front and center?

It starts with how we communicate. As far as I know, at other companies there isn't a position quite like mine, which was created specifically to look at key elements of the compliance program related to training and communications. Another mental shift we've made is viewing compliance training as an opportunity to reinforce our ethical culture. If you don't implement your training program strategically, learners begin to view it as a task that they have to do just to satisfy lawyers. But when we trust that our employees are committed to our Code of Conduct and eager for more information, training programs can become so much more.

### How do you go about building a new compliance training program?

It's important to start with the end in mind. A common mistake is jumping right to tactical questions like which courses you want and how to deploy them. Instead, we chose to begin by drafting design objectives, a set of course standards and a list of the exact risks that we wanted the training program to address. We also came up with three foundational principles that guided our efforts: Trust, Respect and Accountability.

We rely on these principles when we select our vendors, when we decide how many courses should be required each year, when we pick the languages for translations, when we set training completion deadlines, when we send out reminders, when we could grant exceptions and so on.

### What is an example of how these principles have shaped training programs?

The principle of Respect refers to the respect we show for employees' time and intellect. We do this by not requiring employees to take courses that are not relevant to their role, keeping courses short and to the point and setting content standards so that employees don't have to learn a new method every time they take a new course.

Just as GM employees are united by a shared set of behaviors, our guiding principles have become the measuring stick for our compliance training program. From there, we've created a framework for a training program that's strategic, approachable and flexible enough to accommodate emerging risks and trends.

# OPERATIONS

ASPIRATION: Positive Environmental & Social Impact



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Positive Environmental  
& Social Impact

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# What We **ASPIRE** To:



*Buick Regal*

## Positive Environmental & Social Impact

There are very few companies that operate at GM's level globally – 173,000 employees working in 401 facilities; and affiliations with over 12,500 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 and contribute to our aspiration of zero emissions.

# Our MANAGEMENT Approach to Operations



We currently maintain 401 facilities, including 43 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 have their own operating plans, but function 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.

 **TOPICS DISCUSSED IN THIS SECTION**

Environmental Governance

Environmental Policy

Environmental Management System

Environmental Performance

Employee Training

Operational Impact Strategy

**Environmental Governance**

GM has a robust process to enhance the integration of environmental sustainability practices into daily business decisions and to:

- Comply with applicable environmental laws and regulations
- 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
- 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 operational commitments). Furthermore, throughout our manufacturing organization, annual compensation is based on performance to the BPD, which includes environmental metrics.

**Environmental Policy**

As a responsible corporate citizen, GM has a Global Environmental Policy that provides guidelines to help manage the impact of our activities, products and services on the environment. In 2018, we modernized this policy to reflect current areas of focus. The new policy establishes a globally consistent standard intended to protect the environment by establishing sound design, engineering, manufacturing and distribution practices that support compliance while minimizing negative environmental impacts.

 OPERATIONS: Manage

(Cont.)

GM's Guiding Environmental Commitments, which are based on the core Environmental Principles established more than 25 years ago, are the foundation of this new policy. The Commitments serve as a guide for all GM employees worldwide, encouraging environmental consciousness in both daily conduct and in the planning of future products and programs. They include:

- |  |  |
|--|--|
| <p> <b>Taking Care of Our Planet</b><br/>We are committed to actions that restore and preserve the environment.</p> <p> <b>Waste Reduction</b><br/>We are committed to reducing waste and pollutants while conserving resources and recycling materials at every stage of the product life cycle.</p> <p> <b>Water Conservation and Quality</b><br/>We are committed to responsibly using water while taking actions that preserve water quality and conservation across our operations, in our supply chain and in the communities in which we operate.</p> <p> <b>Greenhouse Gas Emissions &amp; Climate Change</b><br/>We believe climate change is real and are committed to the public disclosure of our GHG emissions and taking actions to reduce them.</p> <p> <b>Energy Management</b><br/>We are committed to energy conservation and energy efficiency improvements throughout our global sites and operations.</p> <p> <b>Renewable Energy</b><br/>We are committed to using renewable energy at our facilities and sites globally and will advocate for policies that promote renewable energy use and demand.</p> | <p> <b>Environmental Management System</b><br/>We are committed to a systemic management approach to minimizing and eliminating our environmental impacts around the world. We will consistently and continually assess the impact of our operations and our products on the environment and the communities in which we live and operate with a goal of continuous improvement.</p> <p> <b>Improving Technologies</b><br/>We are committed to vigorously pursuing the development and implementation of technologies for minimizing pollutant emissions from products and our operations.</p> <p> <b>Environmental Stewardship</b><br/>We are committed to participating actively in educating the public regarding environmental conservation and biodiversity.</p> <p> <b>Responsible Sourcing</b><br/>We are committed to responsible sourcing and working with our suppliers to develop sustainable solutions.</p> <p> <b>Obeying Environmental Regulations and Policies</b><br/>We are committed to working with all government entities for the development of technically sound and financially responsible environmental laws and to complying with applicable laws and regulations.</p> |
|--|--|

Our Environmental Policy and Guiding Environmental Commitments provide a framework for manufacturing and nonmanufacturing facilities and major technology centers around the world to implement global policy, consistent and complementary local policies and 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.

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 2018, GM received 24 Notices of Violation (NOVs), 16 in the U.S. and eight outside the U.S. GM took actions to resolve these NOVs. GM did not pay any penalties or fines equal to or in excess of \$10,000 USD.

 OPERATIONS: Manage


### Environmental Management System

All manufacturing facilities that GM owns and operates, and a majority of our nonmanufacturing sites around the world, have implemented an Environmental Management System (EMS). GM's global operations either obtain certification to the International Organization for Standardization (ISO) 14001 Standard from a third party or self-declare conformance to the ISO 14001 Standard requirements. GM's EMS system combines elements of ISO 14001 and management system elements that are unique to our operations.

GM EMS specifications are 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. Overall, each of our global manufacturing operations has 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. This integration ensures we achieve our environmental commitments as a normal part of our business activities.

# “A-”

Score for Climate, Water and Supply Chain



For GM sites that self-declare conformance to ISO 14001, GM has developed a robust implementation and review process. In the U.S., our self-declared ISO 14001 system undergoes a third-party review of the program design. To objectively monitor conformance to the

standard, GM embeds ISO 14001-certified third-party auditors who participate in a third of our manufacturing sites' ISO 14001 corporate audits. Our Mexican manufacturing operations, as well as some

of our U.S. manufacturing operations, use ISO-certified third-party auditors to conduct or assist with conducting ISO 14001 internal audits. These quality checks of GM's ISO 14001 program ensure that our self-declaration process is as robust as an ISO 14001 third-party-certified system. Our Brazil manufacturing operations transitioned, in 2017, from a third-party-certified ISO 14001 program to self-declaring conformance to the ISO 14001 Standard requirements.

GM manufacturing operations in other regions currently utilize third-party accredited registrars to certify conformance to the ISO 14001 standard. New manufacturing operations must develop and implement an EMS program within 24 months of the start of production or the date of acquisition. By maintaining an integrated, common EMS, we can enhance and measure environmental performance and easily share knowledge, processes and technologies that enable GM to meet our environmental goals.

### Environmental Performance

Implementation of our Environmental Principles is facilitated by EPC that apply to our global manufacturing facilities and major technology centers. We are expanding EPC application to our nonmanufacturing facilities. 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 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 the country in which the paint shop is operated has adopted specific air emissions requirements. Where laws are more stringent than our EPC, the law applies.

GM uses a variety of Energy Star initiatives as a framework for charting our progress in building energy efficiency. Energy Star's Building Portfolio Manager (BPM) allows us to benchmark our progress and make continuous improvements. BPM integrates with our utility bill management system, sending an automated monthly analysis of building scores to evaluate building performance.

 OPERATIONS: Manage



**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 a 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 GHGs 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 EPC and industry best practices.

**We strive to have the best-trained environmental professionals in the world**

136

CO<sub>2</sub>

The infographic features a central yellow-bordered box containing a yellow silhouette of a person pointing at a screen. Surrounding this box are various blue icons: a water tap with a sun, a recycling symbol, a water drop, a solar panel, a tree, a cloud with 'CO2' and '136', a globe, and a wind turbine.



 OPERATIONS: Manage


### **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.

We measure and manage resource use at all 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 gives 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 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 operational 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.

We are formalizing our focus on circular design through the creation of our Sustainable Materials Management function. This function encompasses not only the materials that are used in our vehicles, but also how to design for less waste and find new purposes for materials that are no longer needed. We have launched a number of partnerships to advance this mission, including Do Your Part, a program that recycles plastic bottles into winter coats and vehicle parts.

We are also a founding member of NextWave, a collaboration between a group of companies and the nonprofit Lonely Whale Foundation to develop the first commercial-scale, ocean-bound-plastics supply chain. NextWave will develop a model that reduces plastic pollution at scale and ensures the resulting supply chain has the infrastructure and support to meet demand in a socially and environmentally responsible way. The group hopes to divert more than 3 million pounds of plastics from entering the ocean within five years, the equivalent of keeping 66 million water bottles from washing out to sea. GM continues to explore opportunities to use recycled, ocean-bound plastics in vehicle components and in packaging applications.

**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**

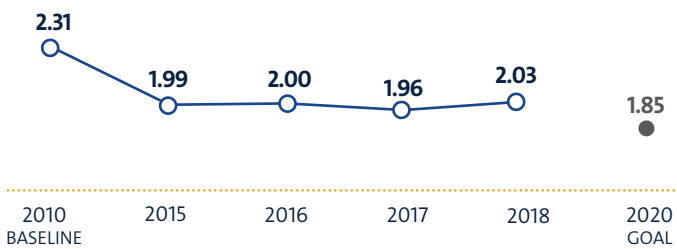
# What We MEASURE



## OPERATIONAL COMMITMENTS

### Reduce Energy Intensity by 20 Percent

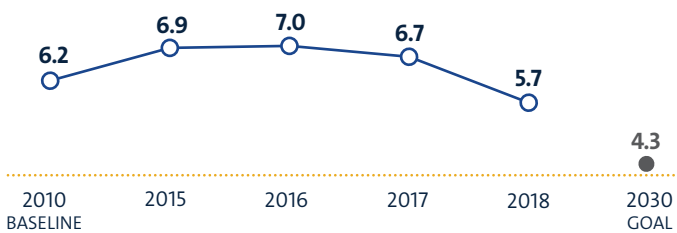
(MWh/vehicle)



GM implemented over 250 global energy savings projects and initiatives in 2018 resulting in 580 GWh of reduction or 3 percent absolute. Unfortunately with 5 percent volume reduction and a large number of product launches, our energy intensity increased by 3.7 percent from 2017. With increased plans for Energy Performance Contracting, we expect to return to our pathway to 2020.

### New Science Goal Established for Operations Absolute Reduction of Carbon by 31 Percent

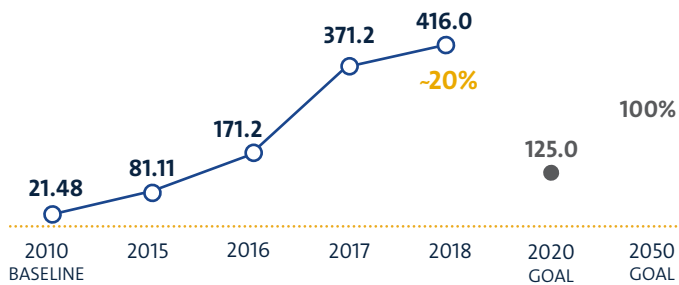
GHG, Scope 1&2 Market Based, million metric tons



GM met our Scope 1 and 2 GHG 2020 goal in 2017 and developed an absolute goal to 2010-2030, based on science, to limit global temperature rise to below 2 degrees Celsius above pre-industrial levels. Energy efficiency in our operations and RE100 provide the methods to meet our goal.

### Increase Renewable Energy to 125MW

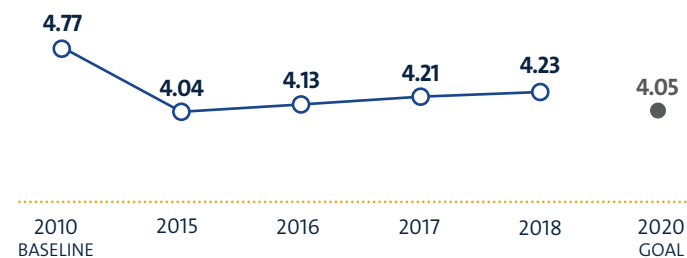
(MW)



We have already exceeded the 2020 goal and are working toward a new target of meeting 100 percent of the electrical needs of our global operations through renewable energy by 2050. We are approximately 20 percent of the way toward this new goal.

### Reduce Water Intensity by 15 Percent

(M3/vehicle)

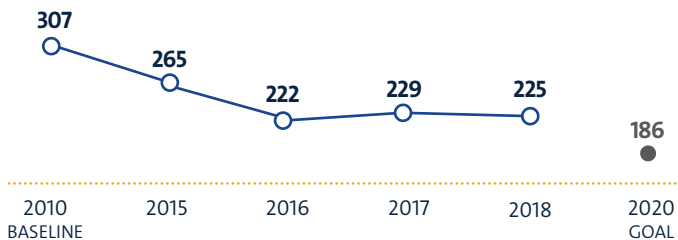


Similar to energy, with a reduction in production volume of 5 percent, even with water conservation projects implemented, GM had a 0.6 percent intensity increase. Our plan to meet the pathway to 2020 is to use Water Performance Contracting.

**OPERATIONS: Measure**

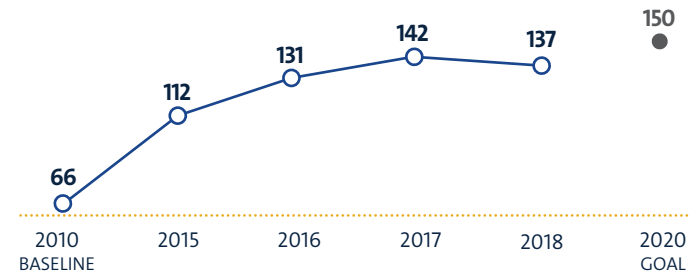
**Reduce Waste Intensity by 40 Percent**

(kg/vehicle)



A new Sustainable Materials Management function is allowing us to continually reduce waste through design, materials selection and repurposing of items that would otherwise go to waste.

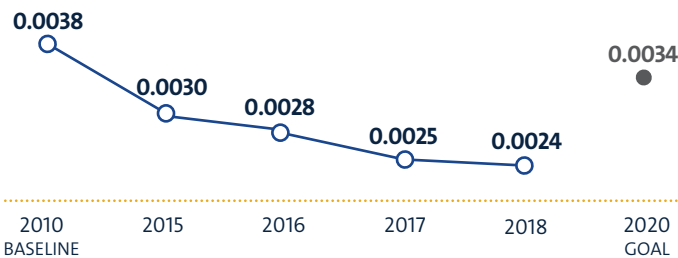
**Reach 150 Landfill-Free Sites**



Manufacturing actions taken as part of GM's transformation led to several plants being unallocated, which in turn decreased our total number of landfill-free sites.

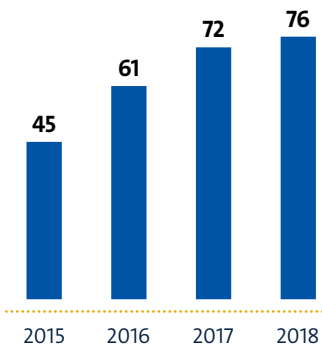
**Reduce VOC Emissions by 10 Percent**

(metric tons/vehicle)



Though we achieved our commitment in 2013, we continue to lower VOC emissions annually.

**Establish a Wildlife Habitat Certification (or Equivalent) at Each GM Manufacturing Site Where Feasible by 2020**



We were gratified to add four new certified wildlife habitats during 2018, thanks to the commitment and enthusiasm of our manufacturing employees and leadership. We are currently at nearly 85 percent of our goal.

**ENERGY REDUCTION**

**8 Years**   
 U.S. EPA Energy Star® Partner of the Year—Sustained Excellence in Energy Management

**1 Assembly Plants**   
 U.S. EPA Energy Star certified

**17 Buildings**   
 U.S. EPA Energy Star certified

**75 Facilities**   
 U.S. EPA Energy Star Challenge for Industry



# ACTIONS We're Taking

## Engage Employees on

## Emissions Reduction in China



As we make efforts to reduce the impact of our operations across the world, it's essential to have our employees on board. GM facilities in China have undertaken several initiatives to inspire employees to help us be more efficient, from one-off events to long-term campaigns.

For example, GM China employees participated in Earth Hour 2019 for the fifth year in a row, joining millions of people around the world in turning off non-essential lights for an hour. Employees also shared content on social media to raise awareness of the need to reduce one's environmental footprint. Those who participated received "green" cutlery, including reusable stainless-steel straws and chopsticks.

We drove improvements throughout the year through energy treasure hunts in Shanghai, SAIC-GM's Jinqiao North Assembly Plant and SAIC-GM-Wuling's Liuzhou West Assembly Plant and Global Propulsion System Plant. At these events, employees searched for opportunities to save energy, reduce GHG emissions and cut costs. The hunters

unearthed a total of 54 energy-saving opportunities, including intelligent management of lighting and air conditioning, optimization of equipment preheating and start-up time, repair of compressed air leaks and reasonable management of compressors. The solutions are expected to generate savings of approximately RMB 13.4 million (\$2 million USD) at the three locations. In the initial stage, 39 opportunities will be implemented, saving about RMB 7.7 million (\$1 million USD) within a year.

In a similar, longer-term initiative, SAIC-GM-Wuling kicked off the Energy Saving and Emission Reduction Campaign. It aims to improve energy efficiency, save money and reduce the company's environmental impact while enabling it to continue manufacturing high-quality products. Employees are encouraged to form Practice Groups, which focus on its existing energy-saving and waste-reducing technologies; or Innovation Groups, which attempt to develop new products and technologies to further reduce energy use and emissions. Both groups can offer new ideas to challenge the status quo and improve our performance.



## Use Logistics to Reduce

### Delivery Miles

Several times a day, coiled steel arrives at the GM Marion Stamping Plant in Marion, Indiana, ready to be shaped into GM cars, vans, trucks and SUVs. The steel is heavy—weighing up to 40 tons per truckload—which means that there are steep fuel demands for the heavy-haul trucks that deliver it to the facility.

Recently, the Marion team decided to leverage the full weight capacity of each truck for deliveries. Moving from partial truckloads to full truckloads led to fewer deliveries over time, as well as optimal use of fuel to deliver the steel.

It was a situation ripe for application of GM's Operational Excellence (OpEx) program, an enterprise-wide effort to adopt new processes and policies that improve our operations in areas including efficiency, quality, customer satisfaction and more. The Marion team engaged suppliers to develop a new system to deliver the same amount of steel using fewer truckloads. This required them to balance multiple variables: considering not only the weight limits of the trucks but also the capacity of freight docks and storage areas, as well as aligning shift and delivery timing and ensuring safety throughout the process.

A few simple calculations delivered significant savings. With the new delivery schedule, the Marion plant has reduced diesel fuel consumption by 75,250 gallons per year across its supplier fleet, removed 1,236 additional trucks from local roadways and saved \$1.2 million in costs. Best of all, these aren't one-off savings. By continuing efficient logistics practices, Marion will maintain reduced emissions and congestion indefinitely. Now, the plant is using the project as a template to develop other distance- and density-reduction strategies, with ideas in the pipeline such as reducing the number of trucks that return empty to the mill warehouse. With ingenuity and application of OpEx principles, they believe there's even more room to improve.



## SET SIGHTS HIGH FOR EMISSIONS REDUCTION

GM was proud to reach our manufacturing carbon intensity goal—a 20 percent reduction in metric tons of CO<sub>2</sub>e per vehicle manufactured between 2010 and 2020—three years ahead of schedule. After achieving this goal in 2017, we got to work developing an even more ambitious target. Our new goal is to reduce absolute Scope 1 and 2 GHG (CO<sub>2</sub>e) emissions by 31 percent by 2030 compared to a 2010 baseline. This goal is consistent with the level of decarbonization required by the science-based target initiative methodology to limit warming to less than 2°C compared to preindustrial temperatures by 2050. Energy efficiency improvements and our RE100 pledge—a commitment to use 100 percent renewable energy in our operations—helped us reach our initial carbon goal. As we look toward 2030, we intend to build on these actions to help us reach our higher aspiration of absolute emissions reduction.



## Procure Wind Power to

## Meet Our Renewable Goal

GM has pledged to meet the electricity needs at all our global operations with renewable energy by 2050. We're about 20 percent of the way there, due in part to a series of power purchase agreements made in 2018.

See the progress that GM is making in states across the U.S. to source renewable energy for our own operations:

### **Texas**

By sourcing energy from the Cactus Flats Wind Farm in Concho County and Los Mirasoles Wind Farm in Hidalgo County, we are meeting 100 percent of the electricity demand of 16 GM offices and facilities and more than 10,000 GM and GM subsidiary employees across Texas and the southeast U.S.

### **Ohio and Indiana**

Two agreements will allow our manufacturing facilities in these states to be powered by 100-percent renewable electricity: one with the Northwest Ohio Wind Farm in Paulding County, owned by Starwood Energy Group, and another with ENEL Green Power to source energy from the HillTopper wind farm in Logan County, Illinois.

### **Michigan**

GM is among the first Michigan companies to participate in a new Consumers Energy program to source renewable energy. Through this program, the electricity used at our Flint Metal Center and Flint Engine Operations is now matched entirely with energy produced at the Cross Winds Energy Park II in Tuscola County.

Among the facilities that now run on wind energy is our Arlington, Texas Assembly Plant. For reaching this milestone, the plant earned a spot on the U.S. Environmental Protection Agency's National Top 100 List of the largest green power users. Arlington is also one of 74 GM facilities recognized by the EPA for achieving the ENERGY STAR® Challenge for Industry for reducing energy intensity by at least 10 percent within five years. GM is also recognized by the EPA as a Green Power Partner for using green power at levels that exceed benchmark requirements and updating the EPA each year on our green power use.

"Renewable energy is an important part of GM's vision for a zero-emissions future," says Rob Threlkeld, global manager of Renewable Energy. "The EPA's support and recognition sends a strong message that transitioning to renewables is good for business and the environment, and helps make a greener grid and cleaner energy more accessible for everyone."



## A new renewable power house

In early 2019, GM partnered with Google, Facebook, Walmart and more than 300 other companies to launch the Renewable Energy Buyers Alliance (REBA)—the largest group of corporate renewable energy buyers in the United States. By working to unlock the marketplace for organizations to buy renewable energy, REBA hopes to bring more than 60 gigawatts (GW) of new renewables online in the U.S. by 2025. The new association will function as a membership organization spanning diverse industries and business types, and whose leadership circle alone represents annual revenues of \$1 trillion, millions of jobs and more than 1 percent of U.S. annual electricity consumption (48 terawatt-hours).

Save Big,

One Bulb at a Time



As an eight-time EPA ENERGY STAR® Partner of the Year award winner, GM continues to demonstrate leadership in sustainability through superior operational efficiency. Since 2010, we have saved more than \$230 million in energy costs while eliminating 1.8 million metric tons of carbon emissions by engaging many facilities in energy-reduction challenges.

With millions upon millions of square feet in our facilities, lighting can play a major role in these efforts. Four years ago, our Lighting Strategy Committee began to focus on lighting improvements for large production centers. Given GM's massive scale, the committee liked the promise of energy-efficient LED lighting but wanted assurances the impact would justify the investment.

We found an ideal solution in Albeo™ LED high bay lighting fixtures and Starco tubular LED retrofits. The fixtures and tubular retrofits offered a longer life span and huge efficiency gains which allows us to save on replacements and maintenance. To date, we have installed more than 100,000 LED fixtures and tubular retrofits in over 21 GM facilities in North America and expect to convert lighting in our remaining sites to LEDs by 2020 using Energy Performance Contracting.



**A SMALLER IMPACT WITH BETTER PLANTS**

GM joined the Better Buildings, Better Plants initiative in 2008 with a pledge to reduce the energy intensity of 31 plants and facilities by 25 percent by 2019 using a 2008 baseline. Through dedicated efforts, these facilities achieved a

**26 percent reduction**

**by 2017, two years ahead of schedule.**



## Reduce Waste in the Design Process

Despite sophisticated design software that aids in the design of new GM vehicles, we still depend on clay vehicle models, which help designers more clearly visualize and refine the look of a finished product. Just as in other stages of vehicle production, we work to reduce waste where we can—which means gathering and reusing clay for multiple designs.

When building and stripping clay vehicle models, the extended design team at our Global Design Center in Warren, Michigan, carefully collects and cleans any leftover clay. Using metal detecting wands, the team meticulously removes any metal pins and processes the material into a new mixture. In one hour, six team members can completely strip one midsize vehicle model of salvageable clay, preventing potentially harmful chemicals and gases from reaching landfills. In 2017 alone, the team kept more than 13 thousand pounds of clay out of landfills.

“Clay recycling is not only good for the environment, it’s great for bottom line as well,” said Sam Vitale, director, Creative Digital & Clay Sculpting. “We’ve saved the company nearly \$1 million in just three years by reusing instead of purchasing new clay.”

For materials that don’t have a clear reuse, the design team draws on its collective creativity. To celebrate Earth Day in 2018,



Design Center artists repurposed waste materials into artwork for a design competition. For months, they collected discarded items such as leather, wood, high-density foam, metal, frames, plumbing parts, mesh, caster, chain and supplier samples—then organized an art competition for objects made from the scraps.

“Project Greenway,” as the competition was known, gave items second life as earrings, purses, paintings and even sculptures of robots. “Viewing the ‘Project Greenway’ art in the Design Center Gallery was inspirational—it was impressive to see how unwanted items were turned into unique pieces of art,” says Dane Parker, Vice President, Sustainable Workplaces. “These types of projects highlight the amazing creativity, capability and commitment of our GM team members.” To further benefit our communities, proceeds from the sale of the one-of-a-kind works of art were donated to each artist’s charity of choice.

### 5 Ways GM Is Applying Circular Economy Principles



Plastic caps and shipping aids



Radiator shrouds for the Chevrolet Silverado and GMC Sierra pickups



Shredded test tires



Air and water baffles for a variety of vehicles



Melted scrap aluminum shavings from machining transmission casings



More transmission casing



Used water bottles



Coat insulation for the homeless



Shipping crates



Planters in 33 urban gardens



## Beat Plastic Pollution Worldwide

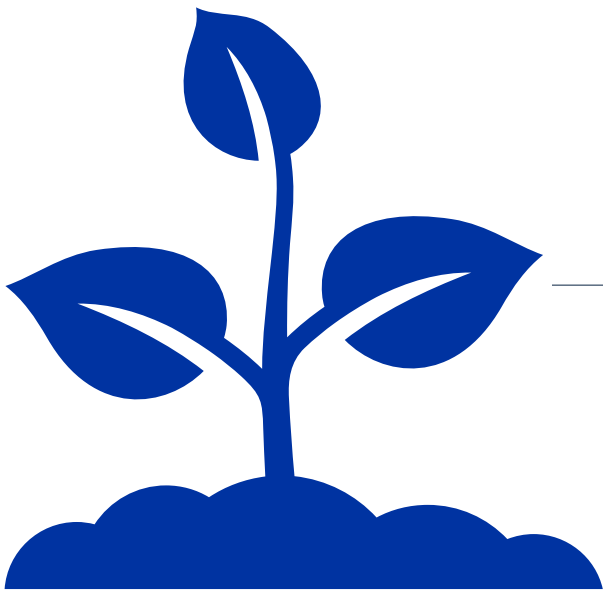
World Environment Day (WED) is a UN-sponsored event designed to encourage awareness and action regarding environmental protection. Each year, GM gets involved by amplifying environmental outreach activities in our facilities or communities. GM sites share their WED plans with the global network, and employees vote on the most creative and impactful WED outreach activities aligned with the year's theme.

In 2018, 72 manufacturing and nonmanufacturing sites in 16 countries submitted more than 100 WED activities that reflected the year's theme: "Beat Plastic Pollution." Winning facilities for the competition included:

- **Talegaon, Maharashtra, India** – Employees participated in cleanups and shared ideas to combat plastic pollution. During one cleanup, nearly 840 pounds of waste were collected by more than 50 employees.

- **São Caetano do Sul, São Paulo, Brazil** – A coffee break room was covered in plastic materials and photos of animals affected by plastic waste, with a sign that read, "If you feel uncomfortable, imagine them." Employees were also challenged to submit 15-second videos showing how their family strived to beat plastic pollution.

- **Silao, Guanajuato, Mexico** – The facility invited commercial partners, contractors, external business partners and the local community to participate in an annual fair about beating plastic pollution, with activities explaining plastic's various dangers. As a first step, the facility recently eliminated plastic straws from its cafeteria.



**Initiatives include encouraging employees to swap their personal waste bins for a potted plant**

## Apply Design Thinking to Our Operations

GM Global Design Operations aims to understand GM customers and align their aspirations with our future products. These aspirations include greater concern about environmental footprints and interest in the materials used in our designs. We've responded by embracing recycled materials and providing greater transparency about our products.

Now, we're turning our focus inward by launching Upcycle, a grassroots startup within Global Design Operations that applies design thinking to improve the sustainability and health of our community, campus and products. Created in 2018, the group has already some gained some ground, including reducing single-use packaging and condiments at our Design Center all-people meetings and starting a program to reuse coffee grounds as garden fertilizer. Other ongoing initiatives include encouraging employees to swap their personal waste bins for a potted plant, hosting a competition to design artwork for new reusable coffee cups, and exploring the possibility of offering only compostable and recyclable packaging within the Design Center's food services. Upcycle's ultimate goal is to empower all employees to make informed decisions about waste disposal.

## Earn New Wildlife

### Habitat Council Certifications



GM's biodiversity efforts focus on reducing our environmental footprint, driving business value and savings, maximizing benefits for communities and supporting the UN Sustainable Development Goal to halt biodiversity loss. In 2018, we were proud to reach 76 wildlife habitat programs certified by the Wildlife Habitat Council (WHC), leading the automotive industry with the most certified sites. We now manage more than 5,000 acres of habitat in 16 countries.

The WHC certification program provides a structure for creating, conserving and restoring wildlife habitats on corporate lands. The certification also recognizes environmental education efforts that use the habitat as a tool for teaching ecological concepts and conservation.

New programs that joined the list of WHC-certified sites include Avtovz Togliatti, Russia; SGMW Liuzhou; China and Cheongna Proving Grounds, Korea. With the addition of these operations, we are at nearly 85 percent of our goal to achieve certified habitats at all manufacturing sites by 2020.

Also as part of this year's progress in addressing biodiversity, our CAMI Assembly Plant in Canada received the Gold Program Award, the WHC's highest recognition for overall excellence in corporate conservation. CAMI Assembly had 13 qualifying projects ranging from management of grassland and wetland habitats to community outreach events.

## Promote Conservation in

### Our Communities

Our Toledo Transmission plant received the highest award from the Ohio EPA's Encouraging Environmental Excellence (E3) Program in 2018. GM was one of five organizations to receive the E3 Platinum Level award, which recognizes organizations with comprehensive environmental stewardship programs that go above and beyond environmental excellence in their own facility to improve social well-being of the local community and region. A few key actions contributed to our win:



#### GREEN INFRASTRUCTURE

By the end of 2018, 100 percent of the site's electricity was supplied by renewable energy sources, including from a 21,000-panel rooftop solar array.



#### EMPLOYEE ENGAGEMENT

Each year, we recognize employees for their contribution to environmental stewardship on Earth Day with a gift, such as a packet of native flower seeds that support pollinators.



#### COMMUNITY PARTNERSHIPS

The facility hosts events where employees lead workshops on local water quality testing and watershed education sessions with local elementary schools.



#### INDUSTRY COLLABORATION

We are active in the Green Ribbon Initiative, a regional partnership of conservation groups working together to protect the natural beauty and biological diversity of the Oak Openings region. Through this regional partnership, the facility entered into an Adopt-A-Natural Area Program agreement with The Nature Conservancy's Kitty Todd Nature Preserve.

# COMMUNITY

ASPIRATION: Safe, Smart & Sustainable Communities



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# What We **ASPIRE** To:



## 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 our 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 among skilled trades and 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.

# Our MANAGEMENT Approach to Communities



We do well by doing good. That's why we work to ensure that community programs are embedded in our decision-making and business processes around the world. Our social impact strategy accelerates our efforts by placing a sharp focus on investments that help create sustainable economic growth around the world. At the same time, it provides a framework that allows us to measure positive social change and business outcomes. Our strategy is built around three key pillars: STEM education, vehicle and road safety, and community development. For each of these pillars, we employ a four-step social impact framework to determine areas where we have the most potential for impact:

 **TOPICS DISCUSSED IN THIS SECTION**

STEM Education

Vehicle and Road Safety

Community Development

1. **Analyze**—Look at the landscape of a problem to understand root causes and existing pain points. Determine how GM as a business can uniquely contribute.
2. **Assess and Align**—Use a decision-making tool to determine what programs we will continue to support and scale, what new types of programs we will support and what programs no longer fit our priorities.
3. **Activate**—Identify specific social impact outcomes and solicit programs that will help us achieve those outcomes.
4. **Measure and Evaluate**—Quantify the impact of programs and map impact to each social outcome.



 **COMMUNITY: Manage**



**GM Pillar  
Impact  
Strategy**

**STEM Education**



Advance STEM education.

**Vehicle & Road Safety**



Fuel safer practices in vehicles.

**Community Development**



Improve neighborhoods and empower residents.

**PROJECT OUTCOMES**

- Increase in students who earn a degree in STEM that matches market needs.
- Increase in presence, achievement and persistence for underrepresented minorities in STEM fields.
- Increase in supply of qualified teachers trained in STEM subjects.

- Increase in seat belt and restraint usage.
- Decrease in impaired and distracted driving.
- Increase in awareness and knowledge of effective vehicle and road safety practices.

- Increase in access to affordable, reliable and innovative transportation choices.
- Increase in education levels and/or marketable technical and vocational skills.
- Increase in communities' quality of life through resident-led innovations.

**INDICATOR OF SUCCESS**

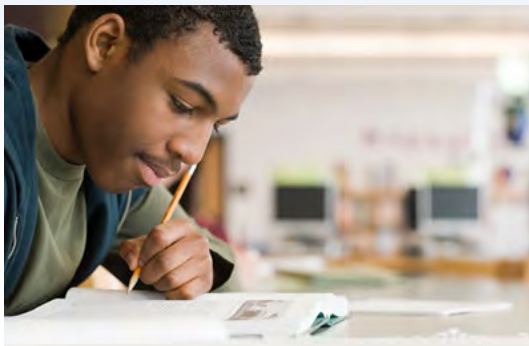
Increase in the number of students with employable labor skills for careers in STEM.

Reduction in the number of vehicle-related injuries and deaths.

Increase in the number of individuals whose socioeconomic opportunity is improving.

Potential partners also use this framework when applying for grants. Based on the pillar with which an organization is aligned, each applicant must explain the indicators and outcomes that their program will address. This alignment ensures our community investments are used to make quantifiable positive impacts in their respective focus areas.

**COMMUNITY: Manage**



**STEM Education**

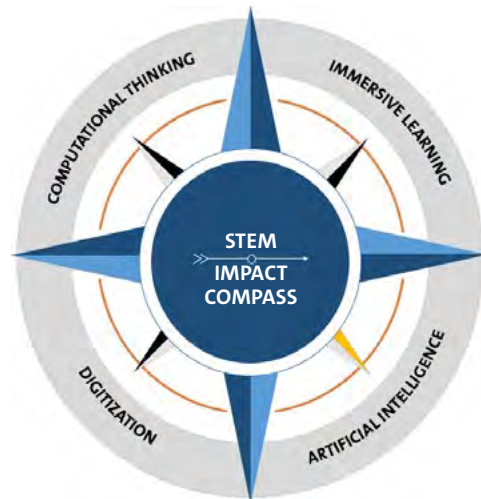
Technological innovation is driving a sea change in the automotive industry. Today’s vehicles have tens of millions of lines of digital code and integrate thousands of parts. This makes STEM education more important than ever to training the workforce of tomorrow. Yet too few students are pursuing STEM-related education and degrees, leading to a looming talent gap for our future workforce.

This gap exists at all levels of education, especially in the U.S. A 2018 report by the National Science Board revealed that nearly half of all bachelor’s degrees awarded in China are in STEM fields, while in the U.S., only about one in three are. The problem begins much earlier than higher education, however. The most recent

Trends in International Mathematics and Science Study, for example, reports lagging scores for U.S. students as early as fourth grade. By high school, according to the Programme for International Student Assessment, the U.S. ranks 38th out of 71 countries in math ability, and 30th among the 35 Organization for Economic Cooperation and Development member countries.

Gaps between men and women, and between whites and minorities, also are significant. 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, according to the US News/Raytheon STEM Index, 2016. Women lag behind men overall in exam scores and in the number of STEM degrees granted. Only 18 percent of computer science majors and 10 percent of information security professionals are women.

We choose initiatives and partners using a research-based analysis of various challenges, such as teacher shortages, quality of teaching and learning, high attrition rates for underrepresented minorities, low student engagement and inequities and inequalities in STEM education. Given the strategic importance of STEM education to the long-term sustainability of our business, more than 1,800 GM employees volunteered over 60,824 hours for STEM education initiatives around the world in 2018. This involvement ranges from fundraising to hands-on volunteer activities like coaching FIRST Robotics teams and mentoring up-and-coming STEM leaders. The programs we support fall into four emerging areas with the potential to drive transformative solutions. We call this model the STEM Impact Compass:



**STEM Focus Areas**



**Immersive Learning**

Hands-on experiences that encourage active participation and drive engagement

- Games for Change National Game Jams
- Mind Research Institute
- Institute of Play
- Donors Choose



**Computational Thinking**

Developing analytical, multidisciplinary and transferable skills like problem-solving and experimentation

- Digital Promise — Computational Thinking Microcredentials
- Black Girls Code Detroit Chapter Launch
- Girls Who Code National Club Partner
- Code.org



**Artificial Intelligence**

Exploring AI-powered technologies with the potential to facilitate teaching and learning

- MIT-SOLVE AI Learning Challenge
- International Society for Technology
- Concord Consortium — NSF RE
- Iridescent



**Digitization of Education**

Using online and digital tools and resources to transform how learning is delivered and experienced inside and outside the classroom

- Khan Academy
- Society of Automotive Engineers — Cybersecurity
- EDC — Data Science
- Mind Research Institute

 **COMMUNITY: Manage**



**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. We know motor vehicle crashes are the number-one cause of unintentional injury death among children ages 5-19. Further, six teens ages 16-19 die every day from motor vehicle injuries. GM aims to bridge the gap between today’s transportation reality and a future in which autonomous vehicles drastically reduce these dangers. Our focus is on parents, grandparents, young drivers and children.

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. We are making progress with the help of partners including Safe Kids Worldwide, MADD, PEERS Foundation, DoSomething.org, the National Safety Council, the ASPIRA Association and the Detroit Public Safety Foundation.

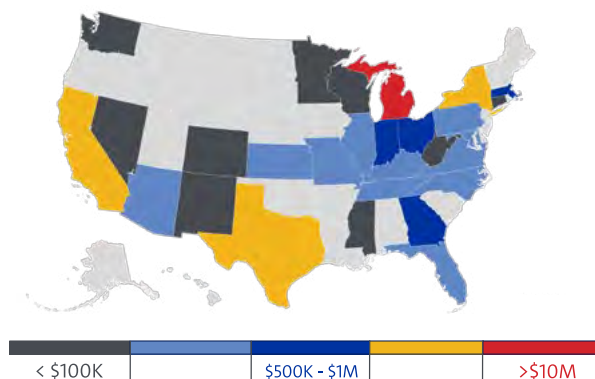
**Safety Partnerships**

- 345,000 people participated in child passenger safety events with Safe Kids.
- 68,000 teens were educated on the importance of seat belt usage through an online campaign for social change with DoSomething.org.
- GM Supported the PBS documentary “Three Seconds Behind the Wheel” that highlights the dangers of distracted driving. Since airing in 2018, it has reached audiences in nearly every U.S. state and eight regions around the world, and was nominated for an Emmy in 2019.

**Corporate Giving Heat Map**

U.S. Giving by State, 2018

Many of GM’s corporate giving efforts are focused in our hometown of Detroit—but our impact doesn’t stop at the Michigan state line. In every community in which we operate, opportunities exist to contribute to a stronger economy by supporting initiatives promoting STEM education, vehicle and road safety and community development. In 2018, we made grants in 28 U.S. states, with many contributions exceeding \$1 million.





 **COMMUNITY: Manage**

**Community Development**

Our third focus area encompasses our efforts to enhance the quality of life in our communities around the world, and particularly in our hometown headquarters of Detroit, Michigan. We believe that for people to succeed, they need access to transit, good jobs and safe, walkable places to live. These three ingredients—mobility, employability and livability—comprise what we call the social mobility ecosystem and guide our efforts to develop communities. Through investments in long-term solutions, GM will enable mobility that goes well beyond vehicles, creating upward economic mobility for many.

This includes improving a community’s neighborhood infrastructure, housing stabilization, revitalization and school improvement projects; and creating child- and family-safe places for recreation and play.

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. See page 115 for more information about how we are supporting employees affected by GM’s ongoing transition.

A second essential element for developing sustainable communities is employability. Today, there are half a million unfilled jobs in IT fields, and hundreds of thousands more will need to be filled soon. Yet too many people lack access to resources, such as high-performing schools, guidance counselors, career offices and connections to individuals with successful careers, to help them develop career aspirations and prepare for today’s world of work. GM aims to increase opportunities for Americans of any age, in any part of the country and from any background to be trained for jobs with promising career paths. We work with partners that help people develop skills in language literacy and proficiency, trades, advanced manufacturing, technology and sales and marketing.



As long as people must physically move to access opportunities, they will need access to reliable and affordable modes of transportation. GM believes in a world made better by sharing. Yet economic and physical access remain barriers to use of shared mobility solutions by everyone. That’s why we’re working with partners that increase access to and utilization of reliable, affordable, smart and innovative transportation options that are likely to facilitate social inclusion.



Closely related to the opportunities offered by expanding mobility options is the demand for walkable, transit-oriented communities. While populations in walkable urban and suburban areas are growing rapidly, there are only 35 adequate, affordable and available units for every 100 extremely low-income renter households nationwide. GM can help address this imbalance by working with partners that use Smart Growth as an urban planning strategy to increase positive enablers that make up a community’s quality of life.

# What We MEASURE



## CORPORATE GIVING

**17,629**

Employee volunteers

**187,315**

Volunteer hours

**\$3.2 million**

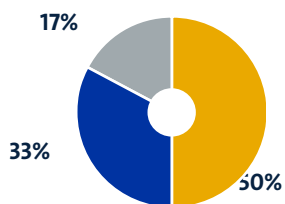
In-kind donations

**1.4 million**

People served through grants

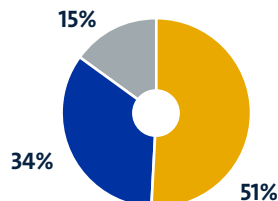
## FOCUS AREA FUNDING

### STEM Education



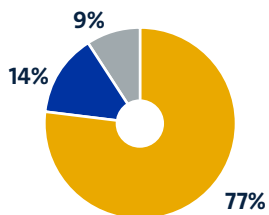
- Increase in presence, achievement and persistence for underrepresented minorities in STEM fields
- Increase in students earning degrees in STEM
- Increase in qualified teachers

### Vehicle & Road Safety



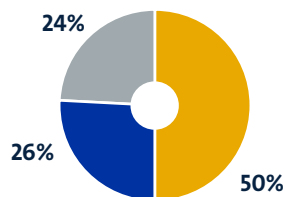
- Increase in awareness and knowledge of vehicles and road safety issues
- Increase in seat belt usage
- Decrease in distracted driving

### Community Development



- Increase in quality of life through resident-led innovations
- Increase in education levels/vocational skills
- Increase in access to affordable and reliable transportation choices

### Detroit



- Increase in third grade literacy, STEM education, high school graduates and supply of qualified school teachers and leadership
- Increase in post-secondary education and decrease in barriers to sustainable employment
- Increase in access to arts and culture institutions, thriving neighborhoods, and visitor, business and resident growth

**MEASURABLE IMPACT OF GRANTS 2017\***

<b>STEM EDUCATION</b>	
<b>Social Outcomes</b>	<b>Participants</b>
Increase the presence, achievement and persistence for underrepresented minorities	348K
Increase students who earn STEM-related degrees	90K
Increase qualified teachers in STEM-related subjects	3K
<b>Total</b>	<b>441K</b>

<b>VEHICLE &amp; ROAD SAFETY</b>	
<b>Social Outcomes</b>	<b>Participants</b>
Increase awareness of vehicle and road safety issues	436K
Increase seat belt and restraint usage	452K
Decrease distracted driving	3K
<b>Total</b>	<b>891K</b>

<b>SUSTAINABLE COMMUNITIES</b>	
<b>Social Outcomes</b>	<b>Participants</b>
Decrease in high school students who are not college-ready	5K
Increase in educational levels and vocational skills	9K
Support urban neighborhood revitalization	4K
<b>Total</b>	<b>18K</b>

<b>DETROIT</b>	
<b>Social Outcomes</b>	<b>Participants</b>
Increase percentage of high school graduates	14K
Increase third-grade literacy proficiency	14K
Increase visitors, businesses and homeowners	54K
Increase employable workforce	505K
<b>Total</b>	<b>587K</b>

\*KPIs for grants completed in 2018, with funds dispersed in 2017

# ACTIONS We're Taking



## Support Big

## Ideas in STEM

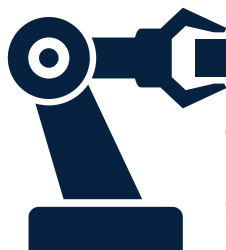


It's never too early to nurture interest in STEM. That's why GM encourages students, educators and entrepreneurs to explore STEM subjects and tackle real-world challenges. One longstanding — and fun — way we do this is by mentoring youth robotics teams. One GM-guided team is the Mercy Midnight Storm, an all-girls robotics group. Eight of the team's 11 mentors are GM employees, who help the Mercy Midnight Storm design, code and manufacture remote-controlled robots. The groups are given six weeks to go from sketch to battle-ready, so the pressure is intense. The girls met at least 10 hours a week during build season at the Detroit Hispanic Development Corporation. In their first year of competition, the Mercy Midnight Storm earned the prestigious Rookie All-Star award at the 2016 FIRST (For Inspiration and Recognition of Science and Technology) Robotics competition in Michigan, made the district event finals and went to Worlds in St. Louis. In 2018, the team had a visit from GM CEO Mary Barra.

GM also supports teachers of STEM subjects through a partnership with the International Society for Technology in Education (ISTE), and in 2018 provided training in artificial intelligence for more than 70 teachers. During National Teacher Appreciation Week, we also matched

community donations of \$500,000 to 1,789 teachers through a DonorsChoose.org campaign and conducted an employee microgiving campaign for teacher development and classroom supplies through United Way.

We also partnered with Solve, an MIT initiative, to fund transformational solutions in STEM education from tech entrepreneurs. Two finalists were selected for both the Work of the Future challenge and the Teachers and Educators challenge and will split GM's \$100,000 prize to scale their concepts.



**One GM-guided team is the Mercy Midnight Storm, an all-girls robotics group**

## Engage College Students in the Future of Transportation

There's no more fitting way for GM to connect with students interested in STEM than by involving them in our mission to achieve zero crashes, zero emissions and zero congestion. GM and our brands did just that with a number of programs geared toward college and university students, including:

- Partnering with the Boston Museum of Science on the Go Carbon Neutral! Challenge. The program invites New England undergraduate students to develop a solution to reduce GHG emissions in Boston's transportation sector. GM employees will contribute as mentors and judges.
- Joining with the Massachusetts Institute of Technology (MIT) Office of Minority Education on Project Momentum, which challenged students to rethink the vehicle entry/exit experience for AV passengers. GM donated the body of a Chevy Bolt EV, the first platform for full autonomy in our portfolio, and students researched, designed and pitched prototypes for AV passenger technology.
- Serving as the official mobility partner for Solar Decathlon Middle East, a competition to build a sustainable house that operates in the region's climate. GM provided a Chevrolet Bolt EV for each of the 15 competing teams, which teams could use to incorporate EV charging into their housing solutions.
- Sponsoring the EcoCAR Mobility Challenge, a U.S. Department of Energy competition that challenges university teams to take a 2019 Chevrolet Blazer and redesign its propulsion system for better fuel economy, while maintaining the vehicle's original performance, consumer appeal and safety. The four-year competition will conclude in 2022.



**General Motors Canada won the 2018 Global Compact Canada SDG Leadership award, and is featured in the 2019 Sustainability Development Goals Emerging Practices Guide as an industry leading example of 'Responsible Production and Consumption'**

## Support STEM in Canada

As in the U.S., GM facilities in Canada are committed to increasing STEM education opportunities and promoting environmental protection. In 2018, GM Canada announced the GM Canada STEM Fund, a \$1.6 million commitment for educational programs to encourage students in STEM and inspire the next generation of Canadian technology innovators.

For more than 20 years, the organization has operated GM Global Rivers Environmental Education Network (GREEN), a program to empower youth to understand their impacts on local watersheds and foster a sense of environmental stewardship. Students engage in outdoor activities such as stream water sampling, stream flow testing and species identification to assess watershed health. GM employees volunteer and serve as mentors to directly support students. GM GREEN now operates at 11 GM locations across Canada.

**70**  
Environmental  
community  
outreach events



 **COMMUNITY: Act**

## Empower with GM Student Corps

With the GM Student Corps program, Detroit area high school students are able to help their communities while also forging lasting relationships with GM retirees and current employees. Since its introduction in 2013, the program has empowered hundreds of local students to enhance their communities while learning valuable life skills. GM Student Corps has provided more than 800 summer internships, 72 school improvement projects and more than 68 park renovations. The program's community impact includes:



**61** Bikes built for donation to kids in need



**115** Picnic tables, chairs and benches built



**635** Yards of mulch spread in local parks



**238** Gallons of paint applied



**112** Flowers and shrubs planted

## Recognize Native American Innovation

GM is proud to partner with the American Indian Science and Engineering Society (AISES) to develop the next generation of STEM talent among American Indian, Alaska Native, Native Hawaiian, First Nations and Pacific Islanders. In 2018, GM Corporate Giving made a \$50,000 grant to AISES, which allowed the organization to develop programs for middle and high school students in robotics, computer science and other STEM topics.

We recruit Native American college graduates by reaching out to AISES college chapters, regional conferences and the national conference. GM's Native American Cultural Network (NACN) employee resource group, under executive champion Kurt Wiese, vice president, Global Manufacturing Engineering, continues to educate, inform and create a greater awareness among GM employees, customers and the public about North American Indian culture and values by ways of marketing our products and representing GM in outreach initiatives.

NACN members are critical in helping us recruit the next generation of Native American employees, participating in activities such as serving as a judge during a Native American Skills Competition in Arizona or hosting a group of Buffalo School Native students at our Lockport, New York plant. GM has been the only automaker named to the Top 50 Workplace for Native American Professionals in STEM for seven consecutive years by Winds of Change Magazine.

In 2018, GM Corporate Giving made a  
**\$50,000**  
 grant to AISES



## Help Students Discover the Unexpected

Chevrolet and the National Newspaper Publishers Association (NNPA) concluded a third successful year of the Discover the Unexpected (DTU) Journalism Fellowship Program. NNPA represents more than 200 African American-owned media companies and newspapers in the United States. The DTU Fellowship is an opportunity for students attending Historically Black Colleges and Universities (HBCUs) to complete summer fellowships at NNPA member newspapers across the country. For the 2018 program, six students were divided into two teams, and each team was given access to a 2018 Chevrolet Equinox for the multicity fellowship and road trip.

The journey began and ended at GM’s headquarters in Detroit. To kick things off, the DTU fellows met with NNPA publishers and editors for a two-day boot camp. They learned about the Chevrolet Equinox, new Chevrolet marketing campaigns and best practices for sharing their journey on social media. They also met with Michelle



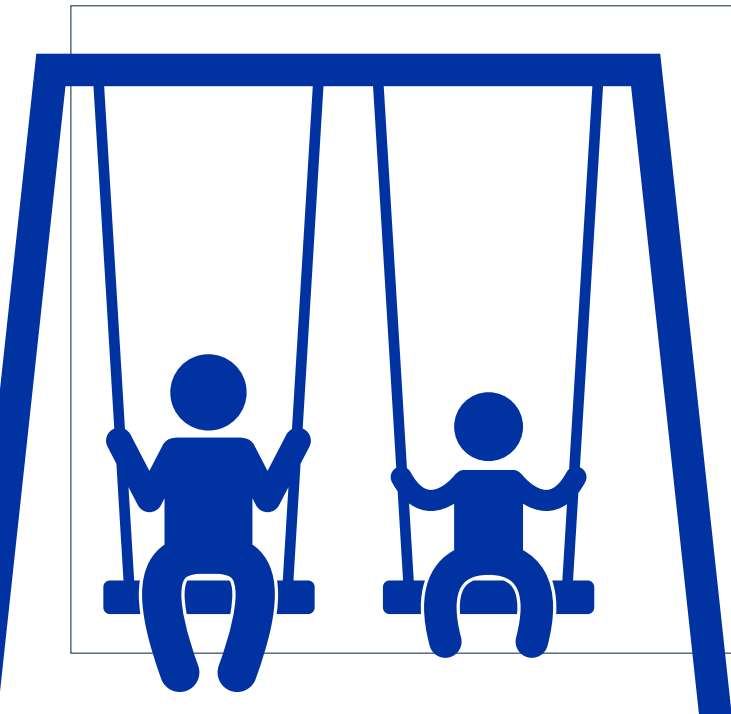
Matthews-Alexander, Chevrolet’s Diversity Marketing Director. Then the teams hit the road, filing stories about their experiences along the way. The eight-week program ended with a special ceremony back at GM headquarters.

The DTU Fellowship continues to welcome students from more schools each year. To date, Chevrolet has awarded more than \$300,000 in scholarships and stipends to HBCU students.

## Give Kids a Place to Play

Our Community Development initiatives focus on solving complex social problems by working with partners to increase a community's quality of life through resident-led innovations. In Austin, Texas, this focus came to life during 2018 through a partnership with KaBOOM!, a national nonprofit dedicated to bringing balanced and active play into the daily lives of young children. The partnership officially began with a kickoff build at Detroit’s Stein Park. Next, we supported a playground build at a school near one of our GM IT Innovation Center communities.

For this project, members of our Austin Innovation Center team built playgrounds at Wayside Altamira Academy and Avondale Elementary School. Employees assembled and installed playground slides, climbers, discs and swings, working to make local children’s dream a reality. The finished playground provides more than 1,000 children with a well-suited space for much-needed outdoor activity—something that is increasingly disappearing from local schools and communities.





## Build Homes for Elders

### in China



GM China began work in 2018 with a new partner, Habitat for Humanity China. Habitat for Humanity is a global organization that recruits teams of volunteers to build or restore homes for people in need. One of the group's focus areas in China is renovation of homes in urban areas, where many elderly people live alone.

Volunteers from GM China took on five projects in 2018. These included painting the walls of a staircase in a historic building that is home to 56 low-income families. The residents, who are mostly elderly, were overjoyed to see their building made more livable. Next, 22 employees repaired a leaking roof at a nursing home on the outskirts of Shanghai. The facility lacked the funds and skills necessary to repair the roof itself. GM China and Habitat for Humanity worked together to buy the necessary materials, move tiles and mix cement to complete the job. With their new roof, 40 villagers now enjoy a safer and more comfortable home.

## Help Children in China Ride Safe

Car crashes are a leading cause of injury and death for young children in China. Each day, at least 30 families are involved in crashes, and 10 children die in traffic accidents. Many of these tragedies can be prevented by educating parents and children on how to stay safe around vehicles. That's why GM China, along with Safe Kids Worldwide, launched the Safe Kids Safe Ride partnership, now in its fifth year.

Through this program, GM volunteers visit classrooms across China to teach children about topics such as traffic safety and the importance of protective equipment such as seatbelts and child safety seats. We helped spread safety knowledge even further in 2018 by working with traffic police workforce and child safety centers. While lessons happen classroom by classroom, they add up to a big impact: since its launch, the program has reached approximately 330,000 children and their parents at more than 4,000 schools in 38 cities across China. In recognition of its efforts, Safe Kids Safe Ride received the Best Social Contribution Award at the Third China CSR Education Award Ceremony in Beijing.



Safe Kids Safe Ride has reached approximately **330,000** children and their parents



## Invest in Detroit's Renaissance

We're helping build and sustain a more vibrant Detroit through investments that make GM's hometown a great place to learn, work and thrive. Our current goals are to increase the number of local third-graders with grade-level reading proficiency, which is a predictor of one's likelihood of graduating from high school. We also aim to decrease unemployment by making more vocational training opportunities available and removing barriers to sustained employment. Finally, we hope to increase the number of residents, businesses and visitors that call Detroit home by investing in livable neighborhoods, cultural institutions and experiences that foster continued engagement in the city. Here are a few partnerships and organizations that are making this possible:

### LEARN



**Forgotten Harvest & Gleaners**  
Reducing food insecurity and promoting classroom readiness by providing food for Detroit students and their families.

**Iridescent**  
Introducing artificial intelligence concepts and technologies to families through hands-on building challenges and projects to create solutions for community problems.

**United Way**  
Accelerating Detroit's revitalization through programs to provide early childhood education and build college and career pathways.

**Get Schooled Detroit**  
Making the path to post-secondary education more accessible for low-income high-school students by "gamifying" the college prep process.

### WORK



**Beyond Basics**  
Providing young adults and families with world-class literacy development, GED and high school diploma prep, resume and essay writing, art and culture enrichment and more, housed inside the Durfee Innovation Society.

**Vehicles for Change**  
Building a bridge to sustainable careers for underemployed and disadvantaged persons by providing training and mentoring to serve as automotive technicians.

**Cass Tiny Houses**  
Helping to create a path to homeownership for low-income Detroit women by building tiny houses on reclaimed city blocks. Financial education classes and an affordable rent-to-own model will allow participants to own their tiny home after seven years.

### THRIVE



**Detroit Riverfront Conservancy**  
Promoting vibrancy and community in the heart of downtown Detroit through support of activities that bring residents and visitors to the riverfront.

**Cody Rouge Neighborhood**  
Deeply engaging with Quicken Loans, DTE Energy and the Skillman Foundation to strengthen the Cody Rouge neighborhood in a first-of-its-kind collaboration utilizing financial and volunteer support.

**Michigan Science Center**  
Bringing STEM careers to life for 4th-8th-grade girls in Detroit Public Schools with hands-on learning and mentoring through the center's STEMinista Project.

## Dive Deep in Service of Others



*“When I learned that one of our own was at the forefront of the efforts, I was reminded of something I keep discovering—never to be surprised by the bravery and commitment of the men and women of General Motors. Your dedication to doing the right thing embodies the very best of human nature.”*

— CEO Mary Barra, in a message to Ruengrit Changwanyuen

When Ruengrit Changwanyuen (*left*), an IT launch manager at GM’s Thailand Rayong Plant, first saw news coverage of the boys’ soccer team trapped in a flooded cave in northern Thailand, he was filled with panic. It was clear to Changwanyuen that those leading the rescue operation did not have the experience or equipment needed to perform a successful rescue.

Changwanyuen should know. He grew up swimming in the Great Lakes. A college friend invited him to learn to scuba dive in Lake Huron, and the rest is history: he became a dive master, dive instructor and eventually an expert at cave diving. Diving in caves is far more dangerous than in open waters, because divers cannot easily resurface. It requires specialized equipment and extensive training.

That experience prompted Changwanyuen to immediately volunteer to help. He flew to Chiang Rai and became dive supervisor and coordinator for the rescue mission, helping to prepare equipment, train divers and plan and perform dives. He also summoned expert cave divers he knew from around the world. Thanks in part to Changwanyuen’s efforts, more than two weeks after the Wild Boars soccer team and their coach entered the cave, all were safely rescued.

Changwanyuen credits some of his success to skills learned on the job at GM, where he has worked since 2001. “My work involves dealing with many departments from many countries, so that helped me a lot in coordinating this,” he says. Changwanyuen has supported GM’s IT infrastructure in China and India, helped launch an OnStar Call Center in the Philippines, worked on OnStar’s IT in Detroit, and now leads GM IT support in Egypt, Korea, Vietnam, Uzbekistan, India and Thailand.

In recognition of his extraordinary efforts, Changwanyuen received a GM LifeSaver Award Certificate of Recognition. “I’m just a small part of a big operation and a lot of teamwork,” Changwanyuen says.

“There are no borders. When something like this happens, every country around the world, they all come together to work on the same goal. That’s the same thing in General Motors. Our culture works towards that every day.”



## GRI CONTENT INDEX

This report has been prepared according to GRI Standards: Comprehensive Option.

## GENERAL DISCLOSURES

Disclosure Number	Description	Reference/Response
<b>Organizational Profile</b>		
102-1	Name of the organization	Cover
102-2	Activities, brands, products, and services	Our Scale and Scope
102-3	Location of headquarters	Detroit, Michigan
102-4	Location of operations	Our Scale and Scope; 2018 Form 10-K pages 2, 17
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	Our Scale and Scope; 2018 Form 10-K pages 2-3
102-7	Scale of the organization	Our Scale and Scope; 2018 Form 10-K page 48
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 Supply Chain—Measure
102-10	Significant changes to the organization and its supply chain	2018 Form 10-K page 1
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> <li>• The JUST 100</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 (FCAI) in Australia. Examples of other associations we work with include the Engine Manufacturers Association, Diesel Technology Forum, Electric Drive Transportation Association, Battery Electric Vehicle Coalition, and the Fuel Cell & Hydrogen Energy Association.
<b>Strategy</b>		
102-14	Statement from senior decision-maker	CEO Message
102-15	Key impacts, risks, and opportunities	2018 Form 10-K pages 10-16 Products—Manage Operations—Act
<b>Ethics and integrity</b>		
102-16	Values, principles, standards, and norms of behavior	Aspirations, Governance & Ethics; Aspire—Our Purpose
102-17	Mechanisms for advice and concerns about ethics	Supply Chain—Manage; Governance & Ethics—Act
<b>Governance</b>		
102-18	Governance structure	Governance & Ethics—Manage
102-19	Delegating authority	Governance & Ethics—Manage
102-20	Executive-level responsibility for economic, environmental, and social topics	Governance & Ethics—Manage
102-21	Consulting stakeholders on economic, environmental, and social topics	Governance & Ethics—Manage
102-22	Composition of the highest governance body and its committees	Governance & Ethics—Measure; GM 2019 Proxy Statement pages 8-17, 24-28

## GRI CONTENT INDEX

## GENERAL DISCLOSURES

Disclosure Number	Description	Reference/Response
102-23	Chair of the highest governance body	GM 2019 Proxy Statement pages 12, 22-23
102-24	Nominating and selecting the highest governance body	GM 2019 Proxy Statement pages 9-12, 23; General Motors Company Board of Directors Corporate Governance Guidelines pages 3-4
102-25	Conflicts of interest	GM 2019 Proxy Statement pages 29-31; General Motors Company Board of Directors Corporate Governance Guidelines pages 7-9, 11
102-26	Role of highest governance body in setting purpose, values, and strategy	GM 2019 Proxy Statement pages 20-21
102-27	Collective knowledge of highest governance body	GM 2019 Proxy Statement page 29
102-28	Evaluating the highest governance body's performance	GM 2019 Proxy Statement pages 23, 27; General Motors Company Board of Directors Corporate Governance Guidelines page 11
102-29	Identifying and managing economic, environmental, and social impacts	Governance & Ethics—Manage
102-30	Effectiveness of risk management processes	Governance & Ethics—Manage; GM 2019 Proxy Statement pages 27-29
102-31	Review of economic, environmental, and social topics	GM 2019 Proxy Statement pages i, 27
102-32	Highest governance body's role in sustainability reporting	Governance & Ethics—Manage; GM 2019 Proxy Statement page 27
102-33	Communicating critical concerns	<a href="http://www.gm.com/investors/corporate-governance.html">http://www.gm.com/investors/corporate-governance.html</a>
102-34	Nature and total number of critical concerns	GM 2019 Proxy Statement page 32
102-35	Remuneration policies	GM 2019 Proxy Statement pages 6, 18-20, 37-69; General Motors Company Board of Directors Corporate Governance Guidelines page 10
102-36	Process for determining remuneration	GM 2019 Proxy Statement pages 6, 18-20, 37-69; General Motors Company Board of Directors Corporate Governance Guidelines page 10
102-37	Stakeholders' involvement in remuneration	GM 2019 Proxy Statement page 18
102-38	Annual total compensation ratio	GM 2019 Proxy Statement pages 6, 37-69
102-39	Percentage increase in annual total compensation ratio	GM 2019 Proxy Statement pages 6, 37-69
<b>Stakeholder engagement</b>		
102-40	List of stakeholder groups	Stakeholder Engagement
102-41	Collective bargaining agreements	2018 Form 10-K page 9
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
<b>Reporting practice</b>		
102-45	Entities included in the consolidated financial statements	2018 Form 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

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response
<b>GRI 201: Economic Performance</b>		
103-1	Explanation of the material topic and its Boundary	CEO Message; Products; 2018 Form 10-K page 18
103-2	The management approach and its components	CEO Message; Products; 2018 Form 10-K page 18
103-3	Evaluation of the management approach	CEO Message; Products; 2018 Form 10-K page 18
201-1	Direct economic value generated and distributed	2018 Form 10-K pages 18, 47
201-2	Financial implications and other risks and opportunities due to climate change	Products—Manage; Operations—Act; 2018 Form 10-K pages 5-8
201-3	Defined benefit plan obligations and other retirement plans	2018 Form 10-K pages 72-74
201-4	Financial assistance received from government	GM did not receive any significant financial assistance from any government in 2018.
<b>GRI 204: Procurement Practices</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.
<b>GRI 205: Anti-corruption</b>		
103-1	Explanation of the material topic and its Boundary	Governance & Ethics
103-2	The management approach and its components	Governance & Ethics
103-3	Evaluation of the management approach	Governance & Ethics
205-1	Operations assessed for risks related to corruption	Governance & Ethics All operations are assessed for risks related to corruption. No significant risks have been identified.
205-2	Communication and training about anti-corruption policies and procedures	Governance & Ethics—Act
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</b>		
103-1	Explanation of the material topic and its Boundary	Products; Operations
103-2	The management approach and its components	Products; Operations
103-3	Evaluation of the management approach	Products; Operations

GRI CONTENT INDEX

TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response																																	
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 2017: 30,313,931 2018: 30,069,475</td> <td>Includes all facility fuel for process and facility heat. Includes Natural Gas, LPG, Coke, Oil and Diesel. 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 2017: 1,118,454 2018: 1,100,142</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 2017: 29,778,155 2018: 29,721,928</td> <td>Nonrenewable electricity</td> </tr> <tr> <td>Heating consumption</td> <td>N/A</td> <td>Included in total fuel consumption</td> </tr> <tr> <td>Cooling consumption</td> <td>N/A</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 2017: 1,610,934 2018: 2,124,961</td> <td>Purchased steam and delivered heat, including purchased steam from renewable sources</td> </tr> <tr> <td>Electricity sold</td> <td>N/A</td> <td></td> </tr> <tr> <td>Heating sold</td> <td>N/A</td> <td></td> </tr> <tr> <td>Cooling sold</td> <td>N/A</td> <td></td> </tr> <tr> <td>Total energy consumption</td> <td>2014: 75,908,302 2015: 73,235,689 2016: 74,895,341 2017: 62,801,243 2018: 63,016,506</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 2017: 30,313,931 2018: 30,069,475	Includes all facility fuel for process and facility heat. Includes Natural Gas, LPG, Coke, Oil and Diesel. Does not include landfill gas.	Total fuel consumption from renewable sources	2014: 927,092 2015: 1,187,937 2016: 2,981,123 2017: 1,118,454 2018: 1,100,142	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 2017: 29,778,155 2018: 29,721,928	Nonrenewable electricity	Heating consumption	N/A	Included in total fuel consumption	Cooling consumption	N/A	Included in electricity	Steam consumption	2014: 4,532,758 2015: 4,663,710 2016: 4,105,376 2017: 1,610,934 2018: 2,124,961	Purchased steam and delivered heat, including purchased steam from renewable sources	Electricity sold	N/A		Heating sold	N/A		Cooling sold	N/A		Total energy consumption	2014: 75,908,302 2015: 73,235,689 2016: 74,895,341 2017: 62,801,243 2018: 63,016,506	
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Total energy consumption	2014: 75,908,302 2015: 73,235,689 2016: 74,895,341 2017: 62,801,243 2018: 63,016,506																																		
302-2	Energy consumption outside of the organization	0 GJ																																	
302-3	Energy intensity	2.03 MWH/vehicle This is based on the production of 8,459,236 vehicles and includes all of our energy sources. The boundary for this is within the scope of our organization.																																	
302-4	Reduction of energy consumption	2,086,502 GJ All types of facility energy were included in the reductions. The basis for calculation is absolute reduction from activities in 2017. Standards, methodologies and assumptions used were good engineering practices.																																	
302-5	Reductions in energy requirements of products and services	Products 5,829,248 GJ Reductions in energy consumption of our products can be contributed to the addition of electric vehicles in China and increased production of electric vehicles versus internal combustion engine vehicles. Rationale for this calculation includes increased efficiencies of Chevrolet Bolt EV and Volt as compared to Chevrolet Cruze. Standards, methodologies, assumptions and calculation tools used can be found at <a href="https://www.fueleconomy.gov">https://www.fueleconomy.gov</a> .																																	

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response																														
<b>GRI 303: Water and Effluents</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	Interactions with water as a shared resource	A combination of municipal, wells, rainwater, surface and reuse are sources of GM's water use. Water is critical to automobile production and for building occupants for drinking water and hygiene. Local facility knowledge provides information on water supply impacts for current operations, and we engage in the use of WRI Aqueduct for future forecasting. Risks in current operations are mitigated with either alternate supply or water reuse working with local utilities. GM engages with over 300 suppliers through CDP Water Supply Chain and other organizations like AIAG. Company goals were set to continuously improve and reduce intensity from 2010 to 2020 by 15 percent. Water is integrated into our business plan, and each facility has a target for year-over-year improvement.																														
303-2	Management of water discharge-related impacts	General Motors maintains an environmental performance criteria document on water pollution control (EPC-003). Within this document minimum concentration-based performance requirements are defined for wastewater discharge to surface water and for wastewater discharges to external wastewater systems. Where local permit limits are more stringent, those supersede the GM requirements. Where no permit limit is provided, the performance requirements are used.																														
303-3	Water withdrawal	<table border="1"> <tbody> <tr> <td colspan="2"><b>Total water withdrawal from all areas, by source</b></td> </tr> <tr> <td>Surface water</td> <td>0 megaliters</td> </tr> <tr> <td>Groundwater</td> <td>3,265 megaliters</td> </tr> <tr> <td>Seawater</td> <td>0</td> </tr> <tr> <td>Produced Water</td> <td>0</td> </tr> <tr> <td>Third-party water</td> <td>32,585 megaliters</td> </tr> <tr> <td><b>Total water withdrawal from all areas with water stress, by source:</b></td> <td>4,273 megaliters</td> </tr> <tr> <td>Surface Water</td> <td>0</td> </tr> <tr> <td>Groundwater</td> <td>0.86 megaliters</td> </tr> <tr> <td>Seawater</td> <td>0</td> </tr> <tr> <td>Produced water</td> <td>0</td> </tr> <tr> <td>Third-party water</td> <td>3,412 megaliters</td> </tr> <tr> <td><b>Total water withdrawal by source:</b></td> <td></td> </tr> <tr> <td>Freshwater (<math>\leq 1,000</math> mg/L Total Dissolved Solids)</td> <td>3,412 megaliters</td> </tr> <tr> <td>Other water (<math>&gt;1,000</math> mg/L Total Dissolved Solids)</td> <td>0.86 megaliters</td> </tr> </tbody> </table> <p><i>Meter and invoice information were used to gather data.</i></p>	<b>Total water withdrawal from all areas, by source</b>		Surface water	0 megaliters	Groundwater	3,265 megaliters	Seawater	0	Produced Water	0	Third-party water	32,585 megaliters	<b>Total water withdrawal from all areas with water stress, by source:</b>	4,273 megaliters	Surface Water	0	Groundwater	0.86 megaliters	Seawater	0	Produced water	0	Third-party water	3,412 megaliters	<b>Total water withdrawal by source:</b>		Freshwater ( $\leq 1,000$ mg/L Total Dissolved Solids)	3,412 megaliters	Other water ( $>1,000$ mg/L Total Dissolved Solids)	0.86 megaliters
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GRI CONTENT INDEX

TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response	
303-4	Water discharge	<b>Total water discharge, by destination</b>	
		Surface water	11,451 megaliters
		Groundwater	119 megaliters
		Seawater	0 megaliters
		Third-party water	22,548 megaliters
		<b>Total water discharge, by category*</b>	
		Freshwater (≤1,000 mg/L Total Dissolved Solids)	11,451 megaliters
		Other water (>1,000 mg/L Total Dissolved Solids).	0 megaliters
		<b>Total water discharge to all areas with water stress, by category*</b>	
		Freshwater (≤1,000 mg/L Total Dissolved Solids)	0 megaliters
		Other water (>1,000 mg/L Total Dissolved Solids)	0 megaliters
		*Accounts only for direct surface water discharges from GM facilities globally.	
		Priority substances of concern for which discharges are treated	GM has established minimum standards for effluent discharges globally to protect water quality and human health. The GM standards were developed for appropriate industrial and sanitary wastewater pollutants in discharges from GM facilities. All GM facilities are subject to the GM standards, as well as applicable local/state/country discharge requirements and permit requirements. The GM standards are often more stringent.
		303-5	Water consumption



## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response						
<b>GRI 305: Emissions</b>								
103-1	Explanation of the material topic and its Boundary	Products; Operations						
103-2	The management approach and its components	Products; Operations						
103-3	Evaluation of the management approach	Products; Operations						
305-1	Direct (Scope 1) 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 CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC Good Practice Guidelines. 2018 GHG emissions are as follows:</p> <table border="1"> <thead> <tr> <th></th> <th>Metric tons CO<sub>2</sub>e</th> </tr> </thead> <tbody> <tr> <td>Gross direct emissions</td> <td>1,763,555</td> </tr> </tbody> </table>		Metric tons CO <sub>2</sub> e	Gross direct emissions	1,763,555		
	Metric tons CO <sub>2</sub> e							
Gross direct emissions	1,763,555							
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 CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC. 2018 GHG emissions are as follows:</p> <table border="1"> <thead> <tr> <th></th> <th>Metric tons CO<sub>2</sub>e</th> </tr> </thead> <tbody> <tr> <td>Gross location-based indirect emissions</td> <td>4,322,761</td> </tr> <tr> <td>Gross market-based indirect emissions</td> <td>3,924,338</td> </tr> </tbody> </table>		Metric tons CO <sub>2</sub> e	Gross location-based indirect emissions	4,322,761	Gross market-based indirect emissions	3,924,338
	Metric tons CO <sub>2</sub> e							
Gross location-based indirect emissions	4,322,761							
Gross market-based indirect emissions	3,924,338							
305-3	Other indirect (Scope 3) GHG emissions	<p>Calculation includes CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub> and NF<sub>3</sub>. Reporting is based on GHG Protocol, and the source of emission factors is regulatory or IPCC. This represents our Scope 3 emissions for 2018:</p> <table border="1"> <thead> <tr> <th></th> <th>Metric tons CO<sub>2</sub>e</th> </tr> </thead> <tbody> <tr> <td>Gross other indirect emissions</td> <td>264,563,698</td> </tr> </tbody> </table>		Metric tons CO <sub>2</sub> e	Gross other indirect emissions	264,563,698		
	Metric tons CO <sub>2</sub> e							
Gross other indirect emissions	264,563,698							
305-4	GHG emissions intensity	<p>0.67 metric tons CO<sub>2</sub>e/vehicle</p> <p>Calculated on the basis of 8,459,236 production vehicles; includes Scope 1 and 2 emissions and all GHG gases.</p>						
305-5	Reduction of GHG emissions	<p>357,033 metric tons CO<sub>2</sub></p> <p>Calculated using GHG Protocol on the basis of year-over-year reduction in 2018 from 2017; and includes all GHG gases in Scope 1 and 2 emissions. We use internal project tracking tools to obtain this data.</p>						
305-6	Emissions of ozone-depleting substances (ODS)	<p>0.936 metric tons</p> <p>Calculation includes R-123, R-500, R-22, R-113, R141B, R-502, 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).</p>						
305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ) and other significant air emissions	<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> <p>VOC (metric tons): 19,796.91                      NO<sub>x</sub> (metric tons): 26                      SO<sub>x</sub> (metric tons): 1,385</p>						

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response																																								
<b>GRI 306: Effluents and Waste</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																																								
306-1	Water discharge by quality and destination	<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> <table border="1"> <thead> <tr> <th>Quality of the water, including treatment method</th> <th>(Reported in Million m3)</th> </tr> </thead> <tbody> <tr> <td>Direct discharge (to surface water body)</td> <td>22.5</td> </tr> <tr> <td>Indirect discharge (to treatment facility)</td> <td>11.5</td> </tr> <tr> <td>Discharge to groundwater</td> <td>0.1</td> </tr> </tbody> </table>	Quality of the water, including treatment method	(Reported in Million m3)	Direct discharge (to surface water body)	22.5	Indirect discharge (to treatment facility)	11.5	Discharge to groundwater	0.1																																
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Direct discharge (to surface water body)	22.5																																									
Indirect discharge (to treatment facility)	11.5																																									
Discharge to groundwater	0.1																																									
306-2	Waste by type and disposal method	<p>Total waste figures includes hazardous and nonhazardous waste from manufacturing operations and some nonmanufacturing and JV facilities, excluding event waste from construction, demolition and remediation. The waste quantity represented as hazardous include wastes that are identified as hazardous per the generating site's state, local and/or country specific regulations and have been identified as such in the centralized data reporting tool (GMR2).</p> <table border="1"> <thead> <tr> <th>Disposal Method</th> <th>Total Waste (k-tons)</th> <th>Hazardous Waste (k-tons)</th> <th>Non-hazardous Waste (k-tons)</th> </tr> </thead> <tbody> <tr> <td>Reuse</td> <td>86</td> <td>1.33</td> <td>84.91</td> </tr> <tr> <td>Recycling</td> <td>1,750</td> <td>15.74</td> <td>1,734.51</td> </tr> <tr> <td>Composting</td> <td>7</td> <td>0.05</td> <td>6.97</td> </tr> <tr> <td>Recover, including Energy Recovery</td> <td>102</td> <td>28.23</td> <td>73.31</td> </tr> <tr> <td>Incineration</td> <td>23</td> <td>16.80</td> <td>6.51</td> </tr> <tr> <td>Deep Well Injection</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Landfill</td> <td>317</td> <td>4.30</td> <td>312.87</td> </tr> <tr> <td>On-site Storage</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Other</td> <td>24</td> <td>5.79</td> <td>18.50</td> </tr> </tbody> </table>	Disposal Method	Total Waste (k-tons)	Hazardous Waste (k-tons)	Non-hazardous Waste (k-tons)	Reuse	86	1.33	84.91	Recycling	1,750	15.74	1,734.51	Composting	7	0.05	6.97	Recover, including Energy Recovery	102	28.23	73.31	Incineration	23	16.80	6.51	Deep Well Injection	0	0	0	Landfill	317	4.30	312.87	On-site Storage	0	0	0	Other	24	5.79	18.50
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On-site Storage	0	0	0																																							
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306-3	Significant spills	There were no significant spills in 2018.																																								

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response
306-4	Transport of hazardous waste	<p>3,995 U.S. tons hazardous waste transported                      Zero hazardous waste imported                      Zero hazardous waste exported                      58 U.S. tons hazardous waste treated                      0 percent hazardous waste shipped internationally                      Waste shipments are weighed and reported directly into centralized data reporting tool (GMR2) based on actual shipment weight. In the event actual weight is not available, internal procedures are in place to estimate and/or calculate weight based on standard industry practice.</p> <p>–Data provided is for U.S. only                      –Values were rounded to the nearest whole number                      –Hazardous waste is defined based on USEPA Regulation                      –Data does not include remediation, construction or demolition, which is consistent with our sustainability waste reporting                      –Treatment is conducted off site and can consist of: solidification/stabilization, thermal treatment, wastewater treatment, other waste treatment or transfer to a waste broker.</p>
<b>GRI 308: Supplier Environmental Assessment</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
308-1	New suppliers that were screened using environmental criteria	100 percent of new suppliers are screened for environmental criteria.
308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain—Measure Supply Chain—Act
<b>GRI 401: Employment</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
401-1	New employee hires and employee turnover	6,760 global salaried candidates hired 6.2 percent total turnover rate 4.8 percent volunteer turnover rate

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

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"> <thead> <tr> <th>Country</th> <th>Benefits</th> </tr> </thead> <tbody> <tr> <td>U.S.</td> <td>Flexible service employees are eligible for the same benefits. However, they pay a higher monthly contribution for health care coverage.</td> </tr> <tr> <td>Canada</td> <td>For Job Share employees, the Health Care Spending Account/Wellness contribution is 50 percent that of a full-time employee. They also pay a higher monthly contribution for health care coverage.</td> </tr> <tr> <td>Countries with no differences in benefits full-time vs. part-time</td> <td>South America, Israel, Australia, New Zealand</td> </tr> <tr> <td>Countries with no part-time employees</td> <td>Mexico, China, South Korea, Thailand, UAE, Japan, Indonesia, India</td> </tr> </tbody> </table>	Country	Benefits	U.S.	Flexible service employees are eligible for the same benefits. However, they pay a higher monthly contribution for health care coverage.	Canada	For Job Share employees, the Health Care Spending Account/Wellness contribution is 50 percent that of a full-time employee. They also pay a higher monthly contribution for health care coverage.	Countries with no differences in benefits full-time vs. part-time	South America, Israel, Australia, New Zealand	Countries with no part-time employees	Mexico, China, South Korea, Thailand, UAE, Japan, Indonesia, India
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Countries with no differences in benefits full-time vs. part-time	South America, Israel, Australia, New Zealand											
Countries with no part-time employees	Mexico, China, South Korea, Thailand, UAE, Japan, Indonesia, India											
401-3	Parental leave	<p>Talent—Manage</p> <p>All U.S. salaried employees are eligible to receive paid parental leave benefits consisting of two full weeks of paid time off for newborn or adoption. In 2018, there were 1,194 employees who received these benefits—258 women and 936 men.</p>										
<b>GRI 402: Labor/Management Relations</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										
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.										
<b>GRI 403: Occupational Health and Safety (2018 GRI Standards)</b>												
103-1	Explanation of the material topic and its Boundary	Safety										
103-2	The management approach and its components	Safety										
103-3	Evaluation of the management approach	Safety										
403-1	Occupational health and safety management system	Manage—Safety										
403-2	Hazard identification, risk assessment, and incident investigation	Manage—Safety										
403-3	Occupational health services	Manage—Safety										
403-4	Worker participation, consultation, and communication on occupational health and safety	Act—Safety										
403-5	Worker training on occupational health and safety	Manage—Safety										
403-6	Promotion of worker health	Manage—Safety; Act—Safety										
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Manage—Safety; Act—Safety										

## GRI CONTENT INDEX

### TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response
403-8	Workers covered by an occupational health and safety management system	Manage—Safety
403-9	Work-related injuries	Measure—Safety
403-10	Work-related ill health	Measure—Safety

Occupational Illness Frequency Rate	
Employees (n/million work hours)	0.64
Data coverage (% of employees)	51

#### GRI 404: Training and Education

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
404-1	Average hours of training per year per employee	7.32 hours excluding compliance training
404-2	Programs for upgrading employee skills and transition assistance programs	Talent—Act
404-3	Percentage of employees receiving regular performance and career development reviews	100 percent of eligible salaried employees receive regular performance and career development reviews.

#### GRI 405: Diversity and Equal Opportunity

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 4, 2019

Board of Directors—Gender		
Male	Female	
5	6	
Board of Directors—Age Group		
Under 30 Years	30-50 Years	50+ Years
0	0	11
Board of Directors—Diversity		
White	African-American	Latino
10	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 99.2 percent. Management Level (base salary only): Female to Male ratio is 106.6 percent. Nonmanagement Level (base salary only): Female to Male ratio is 98.3 percent.
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#### GRI 407: Freedom of Association and Collective Bargaining

103-1	Explanation of the material topic and its Boundary	Talent; Supply Chain
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## GRI CONTENT INDEX

## TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response
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</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</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.
<b>GRI 410: Security Practices</b>		
103-1	Explanation of the material topic and its Boundary	Governance & Ethics
103-2	The management approach and its components	Governance & Ethics
103-3	Evaluation of the management approach	Governance & 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</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</b>		
103-1	Explanation of the material topic and its Boundary	Safety; Personal Mobility
103-2	The management approach and its components	Safety; Personal Mobility
103-3	Evaluation of the management approach	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 non-compliance concerning the health and safety impacts of products and services	2018 Form 10-K pages 23-24, 78-82
<b>GRI 418: Customer Privacy</b>		
103-1	Explanation of the material topic and its Boundary	Governance & Ethics; Personal Mobility

## GRI CONTENT INDEX

## TOPIC-SPECIFIC DISCLOSURES

Disclosure Number	Description	Reference/Response
103-2	The management approach and its components	Governance & Ethics; Personal Mobility
103-3	Evaluation of the management approach	Governance & Ethics; Personal Mobility
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	GM received no material complaints during 2018.
<b>GRI 419: Socioeconomic Compliance</b>		
103-1	Explanation of the material topic and its Boundary	Products; Safety; Personal Mobility; Governance & Ethics
103-2	The management approach and its components	Products; Safety; Personal Mobility; Governance & Ethics
103-3	Evaluation of the management approach	Products; Safety; Personal Mobility; Governance & Ethics
419-1	Non-compliance with laws and regulations in the social and economic area	2018 Form 10-K pages 23-24, 78-82

## UNITED NATIONS GLOBAL COMPACT

General Motors is a member of the United Nations Global Compact, which endorses a framework of principles in the areas of human rights, labor, the environment and anti-corruption. 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="#">Governance &amp; Ethics</a>
2. Businesses should make sure that they are not complicit in human rights abuses.	<a href="#">Supply Chain</a> <a href="#">Talent</a> <a href="#">Governance &amp; Ethics</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="#">Products</a>
8. Businesses should undertake initiatives to promote greater environmental responsibility.	<a href="#">Operations</a> <a href="#">Products</a>
9. Businesses should encourage the development and diffusion of environmentally friendly technologies.	<a href="#">Operations</a> <a href="#">Products</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="#">Governance &amp; Ethics</a> <a href="#">Supply Chain</a>







## UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (UNSDG)

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries — developed and developing — in a global partnership. Below you can find how GM has mapped their most material issues to targets within these 17 goals.

GOAL	GM MATERIAL ISSUE	MOST RELEVANT TARGETS	EXAMPLES OF IMPACT
 <p><b>3</b> GOOD HEALTH AND WELL-BEING</p>	<p>Vehicle Safety Local Communities</p>	<p>3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents</p> <p>3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage – Safety</a></li> <li>• <a href="#">Manage – Communities</a></li> <li>• <a href="#">Act – Safety</a></li> </ul>
 <p><b>4</b> QUALITY EDUCATION</p>	<p>Local Communities</p>	<p>4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage – Communities</a></li> <li>• <a href="#">Support Big Ideas in STEM</a></li> <li>• <a href="#">Support STEM in Canada</a></li> <li>• <a href="#">Engage College Students in the Future of Transportation</a></li> </ul>
 <p><b>5</b> GENDER EQUALITY</p>	<p>Employee Equal Opportunity &amp; Diversity</p>	<p>5.1 End all forms of discrimination against all women and girls everywhere</p> <p>5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life</p> <p>5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage – Talent</a></li> <li>• <a href="#">Push the Envelope for Gender Equality</a></li> <li>• <a href="#">Provide GM Take 2 Program</a></li> <li>• <a href="#">Empower Women at GM China</a></li> </ul>
 <p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p>	<p>Operational Energy &amp; Emissions</p>	<p>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix</p> <p>7.3 By 2030, double the global rate of improvement in energy efficiency</p> <p>7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Operations</a></li> <li>• <a href="#">Engage Employees on Emissions Reduction in China</a></li> <li>• <a href="#">Procure Wind Power to Meet Our Renewable Goal</a></li> <li>• <a href="#">Save Big, One Bulb at a Time</a></li> </ul>
 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	<p>Employee Relations</p>	<p>8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors</p> <p>8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead</p> <p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Talent</a></li> <li>• <a href="#">Manage—Operations</a></li> <li>• <a href="#">Provide GM Take 2 Program</a></li> <li>• <a href="#">Build an Innovation Culture</a></li> <li>• <a href="#">Support Employees During Time of Career Transformation</a></li> <li>• <a href="#">Honor Diversity Across GM</a></li> <li>• <a href="#">Live Our Responsible Employer Philosophy</a></li> <li>• <a href="#">Show Support for Inclusive Legislation</a></li> </ul>

UNSDG

GOAL	GM MATERIAL ISSUE	MOST RELEVANT TARGETS	EXAMPLES OF IMPACT
	<p>Vehicle Fuel Efficiency &amp; Emissions</p> <p>Supply Chain</p> <p>Product Innovation</p>	<p>9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities</p> <p>9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Products</a></li> <li>• <a href="#">Act—Products</a></li> <li>• <a href="#">Manage—Personal Mobility</a></li> <li>• <a href="#">Act—Personal Mobility</a></li> <li>• <a href="#">Manage—Supply Chain</a></li> <li>• <a href="#">Manage Supply Chain Impact through Life Cycle Analysis</a></li> </ul>
	<p>Vehicle Fuel Efficiency &amp; Emissions</p> <p>Product Innovation</p>	<p>11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons</p> <p>11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries</p> <p>11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Products</a></li> <li>• <a href="#">Act—Products</a></li> <li>• <a href="#">Manage—Personal Mobility</a></li> <li>• <a href="#">Act—Personal Mobility</a></li> </ul>
	<p>Operational Waste</p>	<p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources</p> <p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p> <p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Operations</a></li> <li>• <a href="#">Reduce Waste in the Design Process</a></li> <li>• <a href="#">Beat Plastic Pollution Worldwide</a></li> <li>• <a href="#">Apply Design Thinking to Our Operations</a></li> </ul>
	<p>Vehicle Fuel Efficiency &amp; Emissions</p>	<p>13.2 Integrate climate change measures into national policies, strategies and planning</p>	<ul style="list-style-type: none"> <li>• <a href="#">Aspire—Sustainability Strategy; Climate Change Timeline</a></li> <li>• <a href="#">Manage—Products</a></li> <li>• <a href="#">Call for a U.S. National Zero Emissions Vehicle Program</a></li> <li>• <a href="#">Raise Awareness of EVs</a></li> <li>• <a href="#">Partner With Utility Providers</a></li> <li>• <a href="#">Enhance Customers' Charging Experience</a></li> </ul>

UNSDG

GOAL	GM MATERIAL ISSUE	MOST RELEVANT TARGETS	EXAMPLES OF IMPACT
	<p><b>Land Use and Biodiversity</b></p>	<p><b>15.1</b> By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</p> <p><b>15.5</b> Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Operations</a></li> <li>• <a href="#">Manage—Supply Chain</a></li> <li>• <a href="#">Encourage Progress on Sustainable Natural Rubber</a></li> <li>• <a href="#">Earn New Wildlife Habitat Council Certifications</a></li> <li>• <a href="#">Promote Conservation in Our Communities</a></li> </ul>
	<p><b>Product Fuel Efficiency/ Emissions</b></p> <p><b>Supply Chain</b></p> <p><b>Product Innovation</b></p> <p><b>Operations</b></p>	<p><b>17.6</b> Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms in particular at the United Nations level, and through a global technology facilitation mechanism.</p> <p><b>17.7</b> Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Manage—Products</a></li> <li>• <a href="#">Act—Products</a></li> <li>• <a href="#">Manage—Supply Chain</a></li> <li>• <a href="#">Manage—Personal Mobility</a></li> <li>• <a href="#">Act—Personal Mobility</a></li> <li>• <a href="#">Manage—Operations</a></li> </ul>

## SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB) INDEX

Our 2018 report marks the second time that GM has reported to the Sustainability Accounting Standards Board framework (SASB). SASB connects businesses and investors on the financial impacts of sustainability. Currently, we do not track all metrics included in the Transportation Standards but look forward to including more data in the future.

	Metric	Category	Unit of Measure	Code	Response/Comment
<b>Activity Metrics</b>	Number of vehicles manufactured	Quantitative	Number	TR-AU-000.A	8,459,236
	Number of vehicles sold	Quantitative	Number	TR-AU-000.B	8,384,000 (10-K page 2)
Topic	Metric	Category	Unit of Measure	Code	Response/Comment
<b>Product Safety</b>	Percentage of vehicle models rated by NCAP programs with an overall 5-star safety rating, by region	Qualitative	Percentage (%) of rated vehicles	TR-AU-250a.1	US—73% China—83% Australiasia—100% South Korea—75% ASEAN—50%
	Number of safety-related defect complaints, percentage investigated	Quantitative	Number, Percentage (%)	TR-AU-250a.2	There were 5,333 submissions to our internal Speak Up For Safety program in 2018. All submissions are investigated.
	Number of vehicles recalled	Quantitative	Number	TR-AU-250a.3	4.23 million
<b>Labor Practices</b>	Percentage of active workforce covered under collective-bargaining agreements	Quantitative	Percentage (%)	TR-AU-310a.1	63%
	Number of (1) work stoppages and (2) total days idle	Quantitative	Number, Days	TR-AU-310a.2	There were two work stoppages in 2018, a lockout in Brazil for two days and one incident in Argentina for 2.5 days.
<b>Fuel Economy &amp; Use-phase Emissions</b>	Sales-weighted average passenger fleet fuel economy, by region	Qualitative	Mpg, L/km, gCO2/km, km/L Methodology: Average F/E calculated by model year as required for regulatory purposes.	TR-AU-410a.1	USA: 191 gCO2/km China: 6.46 L/km Brazil: 122 gCO2/km
	Number of (1) zero emission vehicles (ZEV) sold, (2) hybrid vehicles sold, and (3) plug-in hybrid vehicles sold	Qualitative	Vehicle units sold	TR-AU-410a.2	ZEV—61,473 Hybrid—24,697 Plug-In Hybrid—29,209
	Discussion of strategy for managing fleet fuel economy and emissions risks and opportunities	Discussion and Analysis		TR-AU-410a.3	Aspire > Sustainability Strategy Product > Management Approach

SASB INDEX

<b>Materials Sourcing</b>	Description of the management of risks associated with the use of critical materials	Discussion and Analysis		TR-AU-440a.1	As we develop electric vehicles, we are mindful of the raw materials necessary to support their deployment on a commercial scale. As with all raw material inputs for our vehicles, some of these materials involve inherently higher risks, such as cost, supply availability and reputational risks. The identification of these risks is part our product development process, and we work to reduce these risks through a variety of methods, including re-engineering of components, supplier diversification, and reuse and recycling efforts.																																								
<b>Material Efficiency &amp; Recycling</b>	Total amount of waste from manufacturing, percentage recycled	Qualitative	Metric tons (t),	TR-AU-440b.1	<p>Total waste figures includes hazardous and nonhazardous waste from manufacturing operations and some nonmanufacturing and JV facilities, excluding event waste from construction, demolition and remediation. The waste quantity represented as hazardous include wastes that are identified as hazardous per the generating site's state, local and/or country specific regulations and have been identified as such in the centralized data reporting tool (GMR2).</p> <table border="1" data-bbox="852 699 1560 1140"> <thead> <tr> <th>Disposal Method</th> <th>Total Waste (k-tons)</th> <th>Hazardous Waste (k-tons)</th> <th>Non-hazardous Waste (k-tons)</th> </tr> </thead> <tbody> <tr> <td>Reuse</td> <td>86</td> <td>1.33</td> <td>84.91</td> </tr> <tr> <td>Recycling</td> <td>1,750</td> <td>15.74</td> <td>1,734.51</td> </tr> <tr> <td>Composting</td> <td>7</td> <td>0.05</td> <td>6.97</td> </tr> <tr> <td>Recover, including Energy Recovery</td> <td>102</td> <td>28.23</td> <td>73.31</td> </tr> <tr> <td>Incineration</td> <td>23</td> <td>16.80</td> <td>6.51</td> </tr> <tr> <td>Deep Well Injection</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Landfill</td> <td>317</td> <td>4.30</td> <td>312.87</td> </tr> <tr> <td>On-site Storage</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Other</td> <td>24</td> <td>5.79</td> <td>18.50</td> </tr> </tbody> </table>	Disposal Method	Total Waste (k-tons)	Hazardous Waste (k-tons)	Non-hazardous Waste (k-tons)	Reuse	86	1.33	84.91	Recycling	1,750	15.74	1,734.51	Composting	7	0.05	6.97	Recover, including Energy Recovery	102	28.23	73.31	Incineration	23	16.80	6.51	Deep Well Injection	0	0	0	Landfill	317	4.30	312.87	On-site Storage	0	0	0	Other	24	5.79	18.50
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SASB INDEX

Material Efficiency & Recycling	Weight of end-of-life material recovered; percentage recycled	Qualitative	Metric tons (t), Percentage (%) Methodology: Percentage is weight of recovered and recycled EOL material divided by total EOL recovered material.	TR-AU-440b.2	GM does not compile this information outside of the EU where the End of Life Vehicle (ELV) law requires OEMs to have programs to retrieve and recycle our vehicles. No other region of sale has this requirement. However, the automobile is considered the most reused and recycled product in the marketplace. In North America and other regions, there is a well-established automotive dismantling industry that manages this activity. Per the Automotive Recyclers Association, professional automotive recycling industry recycles over 4 million motor vehicles annually in the U.S. and Canada alone. The U.S. automotive recycling industry employs over 140,000 people in the United States at more than 9,000 locations around the country, generating \$32 billion in sales nationwide. Per The Balance Small Business SUSTAINABLE BUSINESSES / METAL RECYCLING website*, each year, over 25 million tons of materials are recycled from old vehicles.  *Auto or Car Recycling Facts and Figures, Facts about car or automobile recycling, BY RICK LEBLANC Updated September 09, 2016
	Average recyclability of vehicles sold, by weight	Qualitative	Percentage (%) by sales-weighted weight (metric tons) Methodology: percentage is weight of components/ materials in vehicle sold that are recyclable divided by total weight of all vehicles sold.	TR-AU-440b.3	On average, our vehicles are approximately 85% recyclable and 95% recoverable by weight.

## TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURE (TCFD)

The Financial Stability Board Task Force on Climate-related Financial Disclosure (TCFD) has developed a voluntary, consistent climate-related financial risk disclosure for use by companies in providing information to investors, lenders, insurers and other stakeholders. The TCFD framework rests on four main tenets.

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
<b>GOVERNANCE</b>			
Disclose the organization’s governance around climate-related risks and opportunities		Sustainability Report & CDP	GM's 2018 Sustainability Report and its 2018 CDP Climate Change survey response includes information related to GM's governance around climate-related risks and opportunities.
	a) Describe the board’s oversight of climate-related risks and opportunities	2018 Sustainability Report	<a href="#">Governance &amp; Ethics</a>
		2018 CDP Climate Change survey response, Questions C1.1a and C1.1b	<p>(i) The Governance and Corporate Responsibility Committee (GCRC) of the GM Board of Directors (ii) is comprised of three independent directors. The Committee selects members of the Board; provides leadership in shaping GM’s corporate governance which is important for long-term environmental, social and corporate governance “ESG” success; and oversees GM’s policies and strategies related to Sustainability which is achieved through frequent strategic discussions for ESG related activities which includes climate-related updates. The members of this committee have extensive leadership and strategy experience gained at companies respected for their ESG performance. Their input is valuable as GM further integrates sustainability into its business strategy and addresses climate change on its drive toward a future of zero emissions.</p> <p>The Governance and Corporate Responsibility Committee (GCRC) of the board of directors of General Motors assists the board in its oversight of the company's governance structures, programs, and policies., It brings to the attention of the Board and management as appropriate, current and emerging global political, social, and policy issues that may affect the business operations, profitability, or public image or reputation of the Company. The GCRC oversees global public policy matters as well as specific functions of the Company, as appropriate, including strategy, action plans, and risk management. Company functions reviewed by the GCRC include Legal, Global Public Policy, sustainability including climate change, corporate social responsibility, and philanthropic activities.</p>

TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
	<p>b) Describe management’s role in assessing and managing climate-related risks and opportunities</p>	<p>2018 Sustainability Report</p> <p>2018 CDP Climate Change survey response, Question C1.2a</p>	<p><a href="#">CEO Letter to Stakeholders, Sustainability Strategy, Products, Governance &amp; Ethics</a></p> <p>GM’s CEO is also Chairman of the Board of Directors. Under the CEO’s leadership, GM envisions a world with zero crashes, to save lives; zero emissions, so future generations can inherit a healthier planet; and zero congestion, so customers get back a precious commodity—time.</p> <p>The CEO is focused on strengthening GM’s core business of light-duty vehicles, while also working to lead the transformation of personal mobility through advanced technologies like connectivity, electrification, autonomous driving and car sharing. The CEO has also established a strategic direction based on putting the customer at the center of everything the company does, and GM’s customers expect GM to help mitigate, if not eliminate, issues such as congestion and emissions.</p> <p>The CEO receives regular updates and is involved in key decisions that further our long-term strategic objectives including our efforts to reduce GHG emissions toward a future of zero emissions.</p> <p>The Cybersecurity and Risk Committee of the Board is responsible for overseeing GM’s management of enterprise-level risks. The Strategic Risk Management (SRM) team, led by an executive director with dedicated resources, has risk management responsibility and is supported by the Risk Advisory Council (RAC)—executives who directly report to the Executive Leadership Team (ELT). A global network of executives representing GM’s key functions and markets are given additional responsibilities as risk officers to support the overall SRM program and process. GM’s risk and opportunities identification process is as follows: - RAC and Risk officers appointed - Annual identification, evaluation and assessment of Company and asset risks and opportunities. - Ongoing mitigation plan development and monitoring by RAC and Risk Officers and approval by the ELT. (i) Risks and opportunities are categorized based on frequency, velocity, and impact on financials, operations, reputation, etc. - All top risks have approved mitigation plans, and are reviewed regularly by the ELT and the Board. - All other risks have either an approved mitigation plans and are reviewed at least once a year by the ELT, or after being fully analyzed, are put on a “watch list” and are monitored by the risk officer and their respective ELT member. (ii) Asset level risks have mitigation plans that are the responsibility of local management. Exposure to and experience with catastrophic risk or losses from climate change or other natural events are continuously analyzed and reviewed for ongoing operations and when evaluating new sites and supplier selection. Asset level risks are generally those that are anticipated to occur with regular or high frequency, but have a low impact on the Company and can be managed locally. Lessons learned are incorporated into future site planning, supplier selection process, and risk mitigation and strategic development. For Manufacturing, each site has a Plant director (PD) that has profit and loss responsibility for operations. PD often need support for asset level risk and rely on the Manufacturing Leadership Team (MLT), comprised of Executive VP for Global Manufacturing, regional VPs of Manufacturing, VP of Sustainable Workplaces, Manufacturing representative on RAC, and other resources for risk management and action planning and implementation. The MLT has subject matter experts in risk management and sustainability as resources to PD for risk management.</p>



TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
<b>STRATEGY</b>			
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.		Sustainability Report, CDP and 10K	GM's 2018 Sustainability Report, 2018 CDP Climate Change survey response and its fiscal year 2018 10K include information on actual and potential impacts of climate-related risks and opportunities on GM.
	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	2018 Sustainability Report	<a href="#">CEO Letter to Stakeholders</a> , <a href="#">Sustainability Strategy</a> , <a href="#">Products</a> , <a href="#">Personal Mobility</a> , <a href="#">GRI Content Index</a>
		2018 CDP Climate Change survey response, Question C2.2a & 2.2d, C2.3a, C2.4a	One of the most significant risks likely to impact GM are regulatory risks. Due to the potentially catastrophic effects of climate change, governments around the world have or are likely to enact policies and regulations that could impact our operations and products. Because it may take 3-5 years to design and develop a vehicle before it is launched in the market and then remain competitive and compliant for another 4-7 years, GM uses a long-term approach to regulatory risks.
		2018 CDP Climate Change survey response, Question C2.2d	In the short term (0-5 years), GM is responding to climate change in multiple ways. For its operations to reduce physical risk of rising energy prices and take advantage of the opportunity to reduce cost, it has set aggressive energy and GHG intensity reduction targets through 2020. This internal process used is to integrate energy reduction into our business plan. Annually, we develop energy and GHG reduction targets at a global, regional, and facility level and include methods in our annual business planning process which GM calls its Business Plan Deployment (BPD). These methods include behavioral — cold shutdown, energy efficiency - LED lights, HVAC controls, and low carbon solutions—for example use landfill gas to generate electricity. An example of how this process has influenced the business strategy is the development of an ongoing dedicated fund for energy savings projects of \$20 million USD and use of energy performance contracting to fund the energy and carbon reduction methods.  To achieve our long term (>5 years) carbon reduction plans, we are focusing on our total carbon footprint, including use of sold products (vehicles). For our vehicles we have established and publicly disclosed carbon reduction goals and we have made a commitment to launch 20 new electric vehicles by 2023. Annually, we track our progress to these goals using market sales and measured vehicle emission factors by our Public Policy Group and regional resources. To ensure that we meet these goals on a long term basis, in 2018 we invested \$7.8 B in research and development activities. This includes strategic planning to develop and bring to market affordable products that incorporate technologies that improve vehicle safety, displace petroleum with biofuels and electricity, increase fuel efficiency, reduce emissions, and provide additional value and benefits to our customers. In keeping with this strategy, we remain committed to bringing more electrified and fuel-efficient options to market. By the end of 2018, GM had over 350,000 vehicles on the road in US with some form of electrification- which includes eAssist, two-mode hybrid, extended-range electric vehicle and all electric vehicle models. These products represent mitigation of climate change risk for our value chain and provide an opportunity to sell low carbon products into the market.
FY 2018 10K	Item 1A. Risk Factors		

TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
	<p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.</p>	<p>2018 Sustainability Report</p> <p>2018 CDP Climate Change survey response, Question C.2.3a</p>	<p><a href="#">CEO Letter to Stakeholders</a>, <a href="#">Sustainability Strategy</a>, <a href="#">Products, Operations</a>, <a href="#">GRI Content Index</a></p> <hr/> <p>Risk type: Transition risk</p> <p>Primary climate-related risk driver: Policy and legal- Mandates on and regulation of existing products and services</p> <p>Type of financial impact driver: Technology-Capital investments in technology development</p> <p>Company- specific description: CARB's latest requirements include increasing ZEVs offered for sale in CA and ZEV volumes for 2018 model year and later. Quebec plans to adopt ZEV requirements starting with 2018 model year; other jurisdictions may follow. The Clean Air Act permits states with air quality compliance issues to adopt CA emission standards in lieu of federal requirements; 13 states use these standards, 10 of which have adopted ZEV requirements. GM's cost profile is private. We intend to mitigate this risk by launching 20 new profitable EVs by 2023 and are working to reduce near-term total enterprise costs associated with the Bolt EV.</p> <p>Time horizon: Medium-term</p> <hr/> <p>Risk type: Physical risk</p> <p>Primary climate-related risk driver: Chronic: Changes in precipitation patterns and extreme variability in weather patterns</p> <p>Type of financial impact driver: Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)</p> <p>Company- specific description: Increases in the frequency of drought conditions can further depress water availability for production in water-stressed areas. GM has production facilities in Mexico, an area that was hit hard by drought in 2016-2017, and there is a risk that increases in the frequency of such events could disrupt production due to lack of water availability. Mexico accounts for approximately 7% of GM's global production.</p> <p>Time horizon: Short-term</p> <hr/> <p>Risk type: Transition risk</p> <p>Primary climate-related risk driver: Market-Changing customer behavior</p> <p>Type of financial impact driver: Market-Reduced demand for goods and/or services due to shift in consumer preferences</p> <p>Company- specific description: Changing consumer behavior could weaken the demand for our higher margin full-size pick-up trucks and sport utility vehicles, which could reduce our market share in affected markets, decrease profitability, and have a material adverse effect on our business if we are unable to offer alternatives that are of interest to our customers. (i) Volatility in fuel pricing and tax incentives may affect consumer behavior. As of 2017, carbon-pricing schemes are operating in at least 33 countries and 18 sub-national jurisdictions, covering around 20 percent of global emissions. Though CO2 pricing schemes vary widely around the world, all are intended to encourage consumers to purchase vehicles that emit less carbon or, at a minimum, to help raise public awareness about the importance of CO2 reduction. (ii) There is a risk that there may be less demand for GM's larger, less fuel efficient vehicles.</p> <p>Time horizon: Medium-term</p>
	<p>c) Describe the potential impact of different scenarios, including a 2°C scenario, on the organization's businesses, strategy and financial planning.</p>	<p>2018 Sustainability Report</p>	<p><a href="#">Governance &amp; Ethics</a></p>

TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
		2018 CDP Climate Change survey response, Question C2.4a	<p>Opportunity type: Products and services                      Primary climate-related opportunity driver: Development and/or expansion of low emission goods and services                      Type of financial impact driver : Increased revenue through demand for lower emissions products and services                      Company- specific description: Autonomous electric vehicles offer GM a significant business opportunity to combat climate change. AV systems integrate more seamlessly with EVs than vehicles with conventional internal combustion engines. All-electric AVs also will help accelerate more widespread adoption of electric propulsion technologies. We see autonomous technology leading toward a future of zero congestion, zero emissions and zero crashes, since more than 90% of crashes are caused by driver error, according to the National Highway Traffic Safety Administration (NHTSA).</p> <p>Time horizon : Short-term</p> <p>Opportunity type: Resource efficiency                      Primary climate-related opportunity driver: Move to more efficient buildings                      Type of financial impact driver: Reduced operating costs (e.g., through efficiency gains and cost reductions)                      Company- specific description: Energy Efficiency projects implemented in our manufacturing operations in South Korea results in the opportunity to sell carbon credits into the Emission Trading Scheme in South Korea. Implementing energy efficiency in GM operations in Korea began with an energy treasure hunt in early 2017 and ended with the implementation of various initiatives - LED lights, compressed air and building management. These initiatives represents an opportunity for us to reduce our operational costs and to sell carbon credits into the Korean Carbon Emission Trading Scheme.</p> <p>Time horizon: Current</p> <p>Opportunity type: Resource efficiency                      Primary climate-related opportunity driver: Reduced water usage and consumption                      Type of financial impact driver: Increased production capacity, resulting in increased revenues                      Company- specific description: As extreme drought conditions occur, GM facilities in Mexico with water reuse systems are resilient and can continue to operate. Increases in the frequency of drought conditions can cause disruptions to GM production in our highest water use and production critical process of painting vehicles, due to water stress. Proper mitigation using water conservation and water reuse allows production to continue without added water stress on local water systems. GM’s water management approach at production facilities located in water stressed areas offers an opportunity to continue production without disruptions due to lack of water for people and critical paint shop production. In our San Luis Potosi Assembly plant in Mexico, GM uses a Zero Liquid Discharge system to minimize the reliance on well water withdrawal.</p> <p>Time horizon: Current</p>
		FY 2018 10K	Item 1. Business: Research, Product and Business Development and Intellectual Property (pages 3-5); Environmental and Regulatory Matters (pages 5-8); Item 1A. Risk Factors (pages 10-16)

TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
<b>RISK MANAGEMENT</b>			<b>Development and/or expansion of low emission goods and services</b>
Disclose how the organization identifies, assesses and manages climate-related risks.		Sustainability Report, CDP	GM's 2018 Sustainability Report and its CDP Climate Change survey response includes information related to how GM identifies, assesses and manages climate-related risks.
	a) Describe the organization's process for identifying and assessing climate-related risks.	<p>2018 Sustainability Report</p> <p>2018 CDP Climate Change survey response, Question C2.2b</p>	<p><a href="#">Sustainability Strategy</a>, <a href="#">Products</a>, <a href="#">Governance &amp; Ethics</a></p> <p>GM's Executive Director of Strategic Risk Management (SRM), is fully dedicated to risk management at GM and supports executive leadership, including our Chairman and CEO who considers herself the Chief Risk Officer, as well as GM's Board and Risk Committee. The Cybersecurity and Risk Committee of the Board is responsible for overseeing the Company's management of enterprise-level risks, including climate-related risks such as climate-related policies and regulations that can impact our products, services, and operations, along with the Strategic Risk Management (SRM) program and processes. This executive director leads the SRM team and is supported by the Risk Advisory Council (RAC)—executives who directly report to the Executive Leadership Team (ELT). A global network of executives representing GM's key functions and markets are given additional responsibilities as Risk Officers to support the overall SRM program and process. GM's risk and opportunities identification process is as follows: - RAC and Risk officers appointed; Annual identification, evaluation and assessment of Company and asset risks and opportunities conducted; Ongoing mitigation plan development and monitoring by RAC and Risk Officers and approval by the ELT.</p> <p>- Asset level risks have mitigation plans that are the responsibility of local management. Exposure to and experience with catastrophic risk or losses from climate change or other natural events are continuously analyzed and reviewed for ongoing operations and when evaluating new sites and supplier selection. Asset level risks are generally those that are anticipated to occur with regular or high frequency, but have a low impact on the Company and can be managed locally. Lessons learned are incorporated into future site planning, supplier selection process, and risk mitigation and strategic development.</p> <p>- The process and terminology in place for assessing relative significance of all identified risks, including climate-related risks such as increased and more stringent GHG emission regulations, is as follows: (i) Risks and opportunities are categorized based on frequency, velocity, and impact on financials, operations, reputation, etc. - All top risks have approved mitigation plans, and are reviewed regularly by the ELT and the Board. - All other risks have either an approved mitigation plans and are reviewed at least once a year by the ELT, or after being fully analyzed, are put on a "watch list" and are monitored by the risk officer and their respective ELT member.</p> <p>- GM assesses risks based on management's professional judgment, the relevant case law, definitions and guidance from the U.S. Securities and Exchange Commission (the "SEC") and discussions with external auditors. This includes both a quantitative and qualitative assessment. From a quantitative perspective, GM considers the risk as a percentage of various financial statement amounts (e.g., assets, liabilities, revenues, earnings, etc.). From a qualitative perspective, GM considers all of the relevant circumstances including, whether the risk is strategically integral or important to the company's business plan, whether the risk will have an impact on future results of operations or financial condition, and whether the risk is important to an understanding of the company's business. As a result, risks that we have identified as having a substantive impact will vary from risk to risk in terms of quantitative and qualitative perspectives.</p>

TCFD

Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
	b) Describe the organization's processes for managing climate-related risks.	2018 Sustainability Report  2018 CDP Climate Change survey response, Question 2.2a	<a href="#">Sustainability Strategy, Products, Governance &amp; Ethics</a>  In the short term (zero to five years), GM is responding to climate change by setting aggressive energy and GHG intensity reduction targets through 2020. The internal process used is to integrate energy reduction into our business plan. Annually, we develop energy and GHG reduction targets at global, regional and facility levels and include methods in our annual business planning process which GM calls its Business Plan Deployment (BPD). These methods include behavioral—cold shutdown, energy efficiency—LED lights, HVAC controls, and low carbon solutions—for example use landfill gas to generate electricity. Each month data is collected on energy use and carbon emissions performance that is compared at each site to the target, and, if the target is not met, countermeasures are developed to meet them.

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Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
	<p>c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.</p>	<p>2018 Sustainability Report</p> <p>2018 CDP Climate Change survey response, Section C3.1c</p>	<p><a href="#">Governance &amp; Ethics</a></p> <p>Climate change (CC) has influenced our short- and long-term business strategy. We recognize that we need to find lower carbon solutions for our products and operations and have publicly stated that we see an economic opportunity by lowering our carbon footprint. Our business strategy includes five key priorities, namely 1) Earn Customers for Life; 2) Grow our Brands; 3) Lead in Technology &amp; Innovation; 4) Drive Core Efficiencies; and 5) Build a Culture to Win. In the short term (0-5 years), GM is responding to CC by setting aggressive energy and GHG intensity reduction targets through 2020. Our 2020 GHG target is to reduce GHG intensity by 20% from 2010. We met that target three years ahead of plan and in 2018 set a new goal to reduce absolute Scope 1 and 2 GHG (CO2 equivalent) emissions by 31 percent by 2030 compared to a 2010 baseline. This goal is consistent with the level of decarbonization required by the science-based target initiative methodology to limit warming to less than 2-degrees celcius compared to preindustrial temperatures by 2050.</p> <p>The internal process used is to integrate energy reduction into our business plan. Annually, we develop energy and GHG reduction targets at a global, regional, and facility level and include methods in our annual business planning process which GM calls its Business Plan Deployment (BPD). These methods include behavioral - cold shutdown, energy efficiency - LED lights, HVAC controls, and low carbon solutions - for example use landfill gas to generate electricity. Each month data is collected on energy use and carbon emissions performance which is compared, at each site, to the target and if it is not met, countermeasures are developed to meet the targets. An example of how this process has influenced the business strategy is the development of an ongoing dedicated fund for energy savings projects of \$20 million USD and use of energy performance contracting to fund the energy and carbon reduction methods. In 2018, energy and carbon reduction projects resulted in 0.5 million metric tons of carbon reduction on an absolute basis.</p> <p>GM's global risk management process includes CC issues such as policy/regulatory changes and changing consumer behaviors are discussed at our Board of Directors, Executive Operations Committee (highest management committee), Corporate Strategy Committee, and the Product Development Committee.</p> <p>To achieve our long term (&gt;5 years) carbon reduction plans, we are focusing on our total carbon footprint, including use of sold products (vehicles). For our vehicles we have established and publicly disclosed carbon reduction goals. Annually, we track our progress to these goals using market sales and measured vehicle emission factors by our Public Policy Group and regional resources. To ensure that we meet these goals on a long term basis, in 2018 we invested \$7.8B in research and development activities. This includes strategic planning to develop and bring to market affordable products that incorporate technologies that improve vehicle safety, displace petroleum with biofuels and electricity, increase fuel efficiency, reduce emissions, and provide additional value and benefits to our customers. In keeping with this strategy, we remain committed to bringing more electrified and fuel-efficient options to market. By the end on 2018, GM had over 350,000 vehicles on the road in US with some form of electrification- which includes eAssist, two-mode hybrid, extended-range electric vehicle and all electric vehicle models.</p>

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Disclosure Focus Area	Recommended Disclosure	Source	Comment / Disclosure Examples
<b>METRICS &amp; TARGETS</b>			<b>Opportunity type</b>
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.		Sustainability Report, CDP & 10K	GM's 2018 Sustainability Report, 2018 CDP Climate Change survey response and its fiscal year 2018 10K include information the metrics and targets used to assess and manage relevant climate-related risks and opportunities.
	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk-management process.	2018 Sustainability Report	<a href="#">Products, Supply Chain, Operations, GRI Content Index</a>
		2018 CDP Climate Change survey response	Section C4. Targets and Initiatives
		FY 2018 10K	Item 1. Business: Environmental and Regulatory Matters
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	2018 Sustainability Report	<a href="#">GRI Content Index</a>
		2018 CDP Climate Change survey response, Section C6	Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	2018 Sustainability Report	<a href="#">Products, Supply Chain, Operations, GRI Content Index</a>
		2018 CDP Climate Change survey response	Section C4. Targets and Initiatives
		FY 2018 10K	Item 1. Business: Environmental and Regulatory Matters

## STATEMENT OF ASSURANCE

## 2018 VERIFICATION STATEMENT – GENERAL MOTORS COMPANY



## Statement of Verification

### Introduction

Stantec Consulting Ltd. (Stantec) was contracted by General Motors Company (GM) to conduct an independent third-party verification of a selection of greenhouse gas (GHG) and sustainability data assertions (the assertions) for their Global Facilities.

In this work, GM was responsible for the collection of activity data used in the calculations, data management, and completion of the calculations.

Stantec was responsible for planning and executing the verification to deliver an opinion to a limited level of assurance as to whether the GHG and sustainability data assertions are presented fairly and in accordance with the verification criteria. Stantec is accredited with the American National Standards Institute (ANSI), a member of the International Accreditation Forum (IAF), in accordance with ISO 14065 (Accreditation ID #0805 issued to Stantec Consulting Ltd. for greenhouse gas (GHG) verification and validation).

### Intended User

The results of the verification will be used by GM for internal and external sustainability reporting, and for reporting to CDP. The users of this statement are GM, shareholders and the public.

### Verification Objective

The objective of the verification was to assess whether the GHG and sustainability data assertions (as presented in Table 1) for GM's 2018 operations are accurately prepared in accordance with appropriate criteria.

### Verification Boundaries

The boundaries of the verification include GM owned and operated facilities within General Motors North America (GMNA), General Motors South America (GMSA) and General Motors International Operations (GMIO). A subset of these facilities have been excluded from the GHG and sustainability data assertions due to unavailability of data, and a list of these excluded facilities has been provided to Stantec and included in the detailed verification report for transparency.

### Reporting Period

The verification was conducted for the period of January 1, 2018 to December 31, 2018.

### GHG and Sustainability Data Assertions

The GHG and sustainability data assertions are provided in Table 1.



## STATEMENT OF ASSURANCE

## 2018 VERIFICATION STATEMENT – GENERAL MOTORS COMPANY



Table 1. General Motors Global Facilities - 2018 GHG and Sustainability Data Assertions

Parameter	Assertion	Metric	Unresolved Immaterial Discrepancies
Scope 1 GHG Emissions - Total	1,744,747	tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e)	0.7% of Scope 1 & 2 emissions (under reported)
Scope 1 GHG Emissions Stationary Fuel Combustion	1,547,110	tCO <sub>2</sub> e	0.3% of Scope 1 & 2 emissions (under reported)
Scope 1 GHG Emissions Mobile Fuel Combustion (GMNA Only)	127,812	tCO <sub>2</sub> e	0.4% of Scope 1 and 2 emissions (under reported)
Scope 1 GHG Emissions Facility Refrigerant Use (Equipment) (US Only)	49,863	tCO <sub>2</sub> e	
Scope 1 GHG Emissions Facility Refrigerant Use (Products)	19,962	tCO <sub>2</sub> e	
Scope 2 GHG Emissions (Location Based)	4,322,761	tCO <sub>2</sub> e	0.4% of Scope 1 & 2 emissions (under reported)
Scope 2 GHG Emissions (Market Based)	3,924,338	tCO <sub>2</sub> e	0.4% of Scope 1 & 2 emissions (under reported)
Total Energy Use	17,202,293	MWh	0.7% of Energy Use (under reported)
Total Water Use	35,792,699	m <sup>3</sup>	0.2% of Water Use (under reported)
Total Waste (excluding construction, demolition and remediation)	2,223	1000 US tons	Qualitative discrepancy for inconsistent boundary
Total renewable energy use (MWh)	703,475	MWh	
Total GHG reductions applied due to renewable energy use	398,424	tCO <sub>2</sub> e	
Renewable energy use as a percentage of total electricity use	8.5%	%	
Year Over Year Performance Scope 1 & 2 GHG emissions	9.0% decrease between 2017 and 2018	%	
Year Over Year Performance Total Energy Use	1.3% decrease between 2017 and 2018	%	
Year Over Year Performance Total Water Use	4.5% decrease between	%	

## STATEMENT OF ASSURANCE

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Parameter	Assertion	Metric	Unresolved Immaterial Discrepancies
GRI 302-1 Total Energy Use	17,202,293	MWh	0.7% of Energy Use (under reported)
GRI 303-1 Total Water Use	35,792,699	m <sup>3</sup>	0.2% of Water Use (under reported)
GRI 305-1 Total Scope 1 GHG Emissions	1,744,747	tCO <sub>2</sub> e	0.7% of Scope 1 & 2 emissions (under reported)
GRI 305-1 Total Scope 2 GHG Emissions	4,322,761	tCO <sub>2</sub> e	0.4% of Scope 1 & 2 emissions (under reported)
GRI 306-2 Total Waste (excluding construction, demolition and remediation)	2,223	1000 US tons	Qualitative discrepancy for inconsistent boundary

### Verification Criteria

Stantec has conducted sufficient and appropriate procedures to express a **limited level of assurance** opinion as to whether the GHG and sustainability data assertions for 2018 as quantified by GM satisfy the requirements of the following criteria:

- ISO 14064 Greenhouses Gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, 2006
- World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD), *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (Revised Edition), March 2004
- WRI/WBCSD, Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard
- WRI/WBCSD, GHG Protocol Scope 2 Guidance: An Amendment to the GHG Corporate Standard
- CDP Guidance for the 2018 reporting year (CDP Guidance)
- GRI Sustainability Reporting Guidelines (2011)

### Verification Standards

The verification was conducted in accordance with ISO14064:3, the AA1000 AccountAbility Principles Standard (2008) and Stantec's Standard Operating Procedures developed for accreditation to ISO 14065.

### Verification Opinion

Based on the processes and procedures completed, there is no evidence that GM's stated GHG and sustainability data assertions for the 2018 calendar year are not, in all material respects, fairly stated in accordance with the criteria noted herein.

## STATEMENT OF ASSURANCE

## 2018 VERIFICATION STATEMENT – GENERAL MOTORS COMPANY



### Verifier's Independence, Impartiality, and Competence

Stantec provides this conclusion as an independent verifier. Prior to entering into an assurance agreement Stantec assesses for any real, potential, or perceived conflict. Stantec continues to monitor for compromised impartiality throughout the engagement.

Stantec provides this statement to GM in accordance with our terms of agreement. We consent to its public release. Because of the inherent limitations in any verification, Stantec accepts no responsibility by use of a third party. Stantec has undertaken all assignments in its role as an environmental engineering consulting firm using professional effort consistent with ISO 14064:3. Stantec has assessed the 2018 GHG and sustainability data assertions for GM Global Facilities using reasonably ascertainable information. The assessment represents the conditions in the subject area at the time of the assessment. Stantec did not conduct direct GHG emissions monitoring or other environmental sampling and analysis in conjunction with this verification statement.

#### STANTEC CONSULTING LTD.

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Gizem Gunal-Akgol, P.Eng  
Lead Verifier  
Environmental Services  
Tel: (519) 569-8126

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Daniel Hegg, M.Sc., CEM  
Independent Peer Reviewer  
Environmental Services  
Tel: (250) 389-2538

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## FORWARD-LOOKING STATEMENTS

**Cautionary Note on Forward-Looking Statements:** This document may include “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. We caution readers not to place undue reliance on forward-looking statements. Statements including words such as “anticipate,” “appears,” “approximately,” “believe,” “continue,” “could,” “designed,” “effect,” “estimate,” “evaluate,” “expect,” “forecast,” “goal,” “initiative,” “intend,” “may,” “objective,” “outlook,” “plan,” “potential,” “priorities,” “project,” “pursue,” “seek,” “should,” “target,” “when,” “will,” “would,” or the negative of any of those words or similar expressions to identify forward-looking statements represent our current judgment about possible future events. In making these statements we rely upon assumptions and analysis based on our experience and perception of historical trends, current conditions and expected future developments, as well as other factors we consider appropriate under the circumstances. These statements are not guarantees of future performance; they involve risks and uncertainties and actual events or results may differ materially from these statements. Factors that might cause such differences include, but are not limited to, a variety of economic, competitive and regulatory factors, many of which are beyond our control and are described in our Annual Report on Form 10-K for the year ended December 31, 2018, as well as additional factors we may describe from time to time in other filings with the U.S. Securities and Exchange Commission. We undertake no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information, future events or other factors that affect the subject of these statements, except where we are expressly required to do so by law.