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## INTRODUCTION

# 'it all adds up'

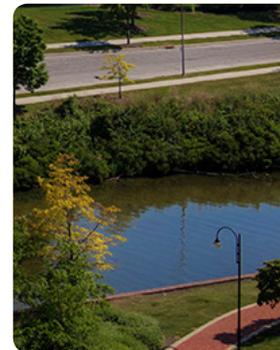
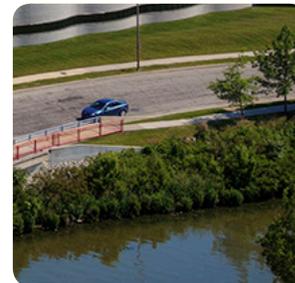
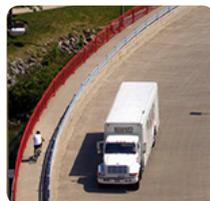
### ABOUT THE THEME

At Owens Corning, we believe that all of the things we do every day and every year add up to make a larger, positive impact over the long term. Seemingly small steps in improving the environment, safety, communities, diversity and more, ultimately lead to making the world a better place. These individual focus areas combine with our financial strength to enable Owens Corning to thrive as a sustainable enterprise.

Our 2016 sustainability report theme of **"It All Adds Up"** is a reminder that all approximately 16,000 people who work for our company are accountable to do our part to contribute to Owens Corning's sustainability journey and to help our families, communities, partners and the world around us to become more sustainable and responsible. We all contribute to an enterprise-wide impact that is cumulative over time.

We are guided by our mission, purpose and core values to do business the right way. In particular, the value of "Striving to Be Better, Every Day" ties strongly to our commitment to sustainability.

Thank you for your interest in Owens Corning and this report, and we welcome your feedback at [sustainability@owenscorning.com](mailto:sustainability@owenscorning.com).



## INTRODUCTION

# executive message

## Dear Valued Stakeholder:

At Owens Corning, our people and products make the world a better place.

Our commitment begins with the recognition that the foundation of a sustainable enterprise is built on financial strength, environmental stewardship, relevant products, innovative thinking, engaged communities and great people. We believe that – to be truly sustainable – we must continuously expand our positive impact, across these six dimensions, through our strategies and actions.

We continued to make progress toward our 2020 goals. While we are reporting results through 2016, our progress is the result of years of innovative thinking and the focused efforts of 16,000 employees committed to meeting the needs of the present without compromising the world we leave to the future.

In this report, we invite you to review highlights of our progress this past year against our four strategic sustainability pillars, and then further explore our [sustainability website](#) to learn of our progress and track our performance against our 2020 goals.

### Operations Sustainability:

- Continued focus on environmental footprint reduction with particulate matter emissions and water use down 23% and 37%, respectively, relative to 2010 levels. Both reductions exceed our 2020 goals.
- Began purchasing power from 250 megawatts of new wind power capacity enabled through our power purchase agreement. This will generate the equivalent electricity of more than 65,000 U.S. homes, with positive impact on primary energy use and greenhouse gas emissions to be reported in our 2017 sustainability reporting.
- Gained LEED® Silver designation for Gastonia Business Center in North Carolina – the third Owens Corning facility to achieve LEED® recognition.

### Product and Supply Chain Sustainability:

- Earned asthma & allergy friendly™ Certification for Pure Safety® high performance insulation – the building products

industry's first product to earn this certification from the Asthma and Allergy Foundation of America.

- Achieved Living Product Imperative Certification for two insulation products – the first insulation products in the world to receive this rigorous multi-attribute certification.
- Increased product transparency by obtaining Declare Labels for EcoTouch® and unbonded loosefill insulation products and a Cradle to Cradle Material Health Certification for our Foamular® extruded polystyrene insulation.
- Facilitated the recycling of 2.5 billion pounds of end-of-life shingles through our networks and 1.3 billion pounds of glass in our insulation products.

### Energy Efficiency and Durable Material Solutions at Scale:

- Helped deploy insulation solutions to reduce heating loads in low-income housing in Chile, reducing the need for burning wood for heat, the country's main source of air pollution.
- Partnered with builders to improve energy efficiency and sustainability-related building practices, from high-end show homes to new home construction, in the U.S. and Canada.
- Collaborated with wind turbine manufacturers to leverage our portfolio of fiber, new fabric constructions and non-woven mats, together with material science and rapid prototyping capability, to help make wind energy more economical.

INTRODUCTION

# executive message

## Safety, Health, Employee Engagement and Community Vitality:

- Achieved a modest reduction in the year-over-year employee recordable incident rate while operating at a very high level of safety performance.
- Launched a science-based global wellness program to help keep our people and their family members healthy.
- Established a global effort that provides education, counseling and medication to assist employees and their family members to become tobacco-free.
- Expanded global efforts to address basic health and education by providing clean drinking water systems, restroom facilities, basic medical services and educational assistance to thousands of children in Owens Corning communities in India.
- Partnered with Habitat for Humanity and World Vision to provide safe, energy-efficient housing through employee volunteerism, financial support and donation of building materials for about 1,500 families in need in the U.S., Canada and China.
- Launched the Roof Deployment Project™, which matches Owens Corning Roofing Platinum Preferred Contractors with U.S. military and veterans' families around the country, to deliver and install a free, new roof.
- Worked with Hose2Habitat to reuse fire hose, brushes, cardboard and more at zoos and animal sanctuaries for toys, and feeding and learning tools that enrich animals' lives.
- Announced an agreement with the Concrete Preservation Institute to restore the historic Battleship Row mooring quays and help U.S. Army personnel transition to civilian jobs. Owens Corning and the Owens Corning Foundation will donate fiberglass composites, materials expertise and \$100,000 to support CPI's Career Skills Program at Pearl Harbor.

## Going forward, our priorities are to:

- Increase our net-positive momentum by growing our global company;
- Continue our progress toward zero injuries;
- Scale our energy efficiency and durable materials innovation and collaboration in the transportation, buildings, infrastructure, wind energy and industrial sectors;
- Meet our greenhouse gas emissions goals through energy efficiency, renewable energy, substitutions in our foam blowing agents and collaboration with our suppliers;
- Reduce our manufacturing waste generation and develop larger scale recycling options for glass fiber waste in our operations – this remains a challenge;
- Develop and launch new sustainable product attributes that materially improve their total life cycle impact;
- Expand options for end-of-life recycling of our products, with a near-term focus on asphalt shingles;
- Accelerate our wellness progress to help keep our people and their families healthy;
- Enhance our employees' and customers' engagement in responding to the needs of the communities in which we operate; and
- Invest in the growth and development of our people.

Thank you for your interest in Owens Corning.



*Michael H. Thaman*

**Michael H. Thaman**  
Chairman and CEO



*Frank O'Brien-Bernini*

**Frank O'Brien-Bernini**  
Chief Sustainability Officer

## INTRODUCTION

# executive summary

## SUSTAINABILITY HIGHLIGHTS

In 2016, Owens Corning made significant steps toward a more sustainable enterprise. Our highlights include:

- Reduced water intensity by 37% against our 2010 baseline, surpassing our goal to reduce water intensity by 35% by 2020.
- Updated and expanded our Human Rights Policy to more completely define our stance on all aspects of human rights. We have also updated training on these topics, which is provided to all staff on a global level.
- Furthered our commitment to employee health and wellness through the expansion of our Healthy Living platform with the establishment of regional wellness leadership councils; new employee health clinic and fitness center at our world headquarters; and high employee participation in the global activity challenge.
- Achieved 72% site participation in community service initiatives, surpassing our 2016 company-wide goal of 70% participation.
- Worked to identify how we can further align our sustainability efforts with the United Nations' Sustainable Development Goals (SDGs), and do our part to end poverty, protect the planet and ensure prosperity for all.

## SUMMARY OF GOALS AND PROGRESS

Product Responsibility	Goal	2016 Progress
Building Science	Increase the number of Owens Corning-supported net-zero-ready buildings year-over-year vs. 2015 baseline of 35	Developed new strategic partnerships, completed 40 builds in 2016
Product Stewardship	Implement continuous and measurable improvements	Progress continues, as described in the Product Stewardship section
Product Innovation	Create pipeline of sustainable products, and increase the value through sustainability in the innovation process by 2020	Progress continues, as described in the Product Innovation section

INTRODUCTION

# executive summary

Environmental Responsibility	Goal	2016 Progress
Emissions	Reduce greenhouse gas intensity by 50% by 2020 vs. 2010 baseline	↓ 35% against baseline
Emissions	Reduce toxic air emissions intensity by 75% by 2020 vs. 2010 baseline	↓ 61% against baseline
Emissions	Reduce PM2.5 emissions intensity by 15% by 2020 vs. 2010 baseline	↓ 23% against baseline (achieved in 2015)
Energy	Reduce primary energy intensity by 20% vs. 2010 baseline (global)	↓ 18% against baseline
Energy	Reduce consumed energy intensity	↓ 17% against baseline
Waste	Reduce waste-to-landfill intensity by 70% by 2020 vs. 2010 baseline	↓ 5% against baseline, with extra focus on this issue going forward
Water	Reduce water intensity by 35% by 2020 vs. 2010 baseline	↓ 37% against baseline (achieved in 2016)

Social Responsibility	Goal	2016 Progress
Employee Development	30 hours of training per employee for development purposes	Females received an average of 16 training hours and males an average of 19
Community Involvement	Achieve 70% site participation in community service projects in 2016, with a long-term goal of 100% facility engagement by 2022	72% site participation
Safety	While we are committed to eliminating all injuries (goal of 0), our interim goal is to make progress on our march to zero by demonstrating a reduction in the number of injuries year-over-year; living safely is a core value of Owens Corning	In 2015, Owens Corning reported the number of injuries at 84, and in 2016, we show the number of injuries at 90; achieved a modest reduction in the year-over-year employee recordable incident rate while operating at a very high level of safety performance

Supply Chain Responsibility	Goal	2016 Progress
Supply Chain Sustainability	Set clear expectations for sustainability progress by our suppliers	We continue to set expectations through our Supplier Code of Conduct, supplier survey and other methods
	Use leading-edge sourcing practices	Progress continues, as outlined in the Supply Chain Sustainability section
	Measure and disclose supply chain performance	Our annual supplier survey helps us gather data and identify areas in which we can improve our supply chain performance
	Convert 12% of North American transportation miles from diesel fuel to natural gas by 2020	11% of transportation miles by natural gas

For additional details on our goals and progress, visit <https://www.owenscorning.com/corporate/sustainability/journey/goals>

# INTRODUCTION

## executive summary

### AWARDS AND HONORS

#### January 2016

- Recognized as **one of the world's most sustainable companies** for the third consecutive year by sustainability investment specialist RobecoSAM. Owens Corning's score - within 1% of the top score globally - earned it the **"Gold Class" distinction**. The company was also named an **"Industry Leader"** by RobecoSAM.
- Acclaimed as a global leader in leadership development, according to an annual ranking from *Chief Executive Magazine*. Owens Corning ranked 11th on the **"2016 Best Companies for Leaders"** list, which consists of 40 public companies.
- Placed on *Corporate Responsibility Magazine's* annual **Most Sustainable Headquarters** List that honors companies with an outstanding commitment to sustainability, extending beyond business operations and into the corporate headquarters.

#### March 2016

- Ranked 138 among 500 on **Forbes' list of America's Best Employers**.
- Noted as a "W" company on the **2020 Women on Boards** listing of public and private companies whose boards are comprised of 20% or more women.

#### April 2016

- Recognized by the U.S. Environmental Protection Agency (EPA) as a **2016 ENERGY STAR® Partner of the Year - Energy Management**. The award highlights the Company's outstanding efforts to improve energy efficiency.
- Appeared on *Corporate Responsibility Magazine's* annual **100 Best Corporate Citizens** list for the second consecutive year, moving up from 68 to 43.

#### June 2016

- Listed on the **Fortune 500®** list for 62 consecutive years.
- Named one of the best places to work for information and business technology professionals by Computerworld. In the annual **"Best Places to Work in IT"** list, Owens Corning ranked fourth among the top 100 large organizations.

#### September 2016

- Earned placement for the seventh consecutive year in the **Dow Jones Sustainability World Index (DJSI World)** for its sustainability performance. Additionally, for the fourth straight year, were named the **Industry Leader** for the DJSI World Building Products group.
- Included in **2016 CDP Climate Leader's A List**. This distinction is given to only 9% of the corporations that responded to CDP's annual climate disclosure questionnaire and represents the companies that score at least 75% in Leadership criteria, do not report any significant exclusions in emissions and have at least 70% of its scope 1 and scope 2 emissions verified by a third party verifier. Third party verification must be done using one of the accepted verification standards as outlined in the scoring methodology.

#### November 2016

- Ranked on Vault's list of the **50 Best Internships** as one of the highest-rated internship programs across the survey pool.
- Presented with *Corporate Responsibility Magazine's* **Ladder Award** given to the companies that have advanced the most places in their annual 100 Best Corporate Citizens listing and made the most dramatic developments in their commitment to corporate responsibility and social impact.

#### December 2016

- Received a perfect score of 100% on the **Corporate Equality Index (CEI)**, a national benchmarking survey and report on corporate policies and practices related to lesbian, gay, bisexual and transgender (LGBT) workplace equality, administered by the Human Rights Campaign Foundation.
- Awarded **Gold Recognition Level** for sustainability performance in a survey conducted by EcoVadis, which assesses the environmental and social performance of suppliers. The gold level is for the top 5% corporations for sustainability performance and excellence.

## INTRODUCTION

# company profile

Owens Corning is a world leader in fiberglass composites, insulation and roofing. Our products range from glass fiber used to reinforce composite materials for transportation, electronics, marine, infrastructure, wind-energy and other high-performance markets to insulation and roofing for residential, commercial and industrial applications.

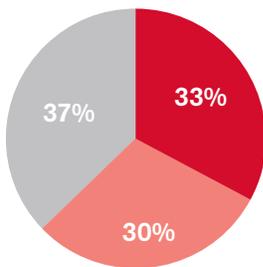
Global in scope and human in scale, the Company's market-leading businesses use their deep expertise in materials, manufacturing and building science to develop products and systems that save energy and improve comfort in commercial and residential buildings. Ultimately, Owens Corning people and products make the world a better place.

Owens Corning was founded in 1938 in Toledo, Ohio, and we are still based there today. The Company has been on the *Fortune*® 500 list for 62 consecutive years.

Owens Corning is a publicly traded company on the New York Stock Exchange. As of December 31, 2016, beneficial ownership includes: The Vanguard Group, 9.1%; Barrow, Hanley, Mewhinney & Strauss, LLC, 6.4%; and BlackRock, Inc., 6.3%.

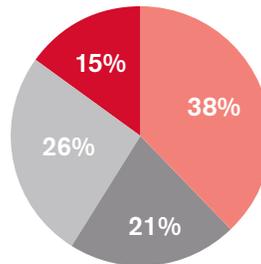
## OWENS CORNING BY THE NUMBERS

2016 Revenue by Segment



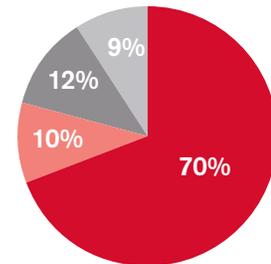
- Composites
- Insulation
- Roofing

2016 Revenue by End Market



- U.S. and Canada New Residential Construction
- U.S. and Canada Residential Repair and Remodeling
- U.S. and Canada Commercial and Industrial
- International

2016 Revenue by Region



- United States
- Europe
- Asia Pacific
- Canada and Other

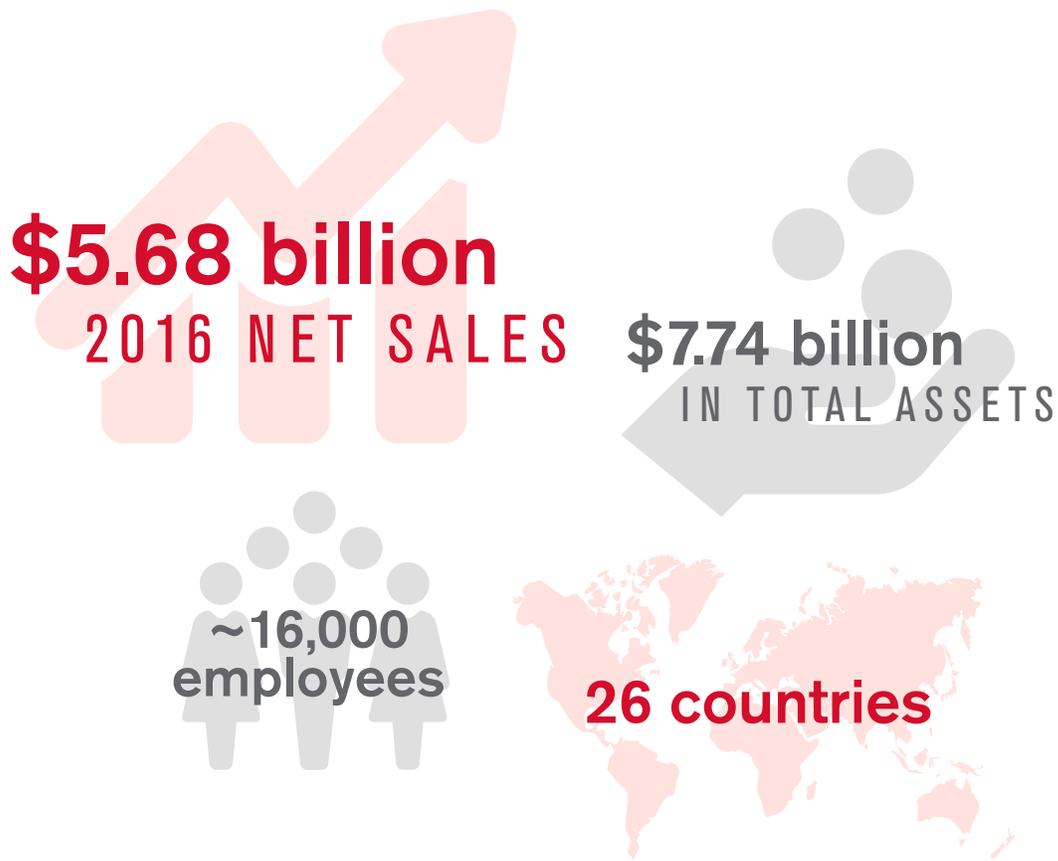


**INTRODUCTION**

# company profile

As of December 31, 2016, Owens Corning employed about 16,000 people in 26 countries. We have manufacturing and research and development operations in the following countries:

- Asia Pacific: China, India, Singapore, South Korea
- Europe: Belgium, France, Netherlands, Russia, Spain, United Kingdom
- Americas: Brazil, Canada, Mexico, United States



## INTRODUCTION

# company profile

## THE OWENS CORNING STORY

**Our Mission:** We aspire to build market-leading businesses; global in scope – human in scale.

**Our Purpose:** Our people and products make the world a better place.

### Our Company Values:

- Living Safely
- Winning with Customers
- Leading in Quality
- Expanding Our Impact through Sustainability
- Turning Knowledge into Value
- Striving to Be Better, Every Day

## OUR BUSINESSES

The Company has three reporting segments: Composites, Insulation and Roofing:

### Composites

Owens Corning® glass fiber materials can be found in more than 40,000 end-use applications within seven primary markets: power and energy, housing, water distribution, industrial, transportation, consumer, and aerospace/military. Such end-use applications include pipe, roofing shingles, sporting goods, computers, telecommunications cables, boats, aircraft, defense, automotive, industrial containers and wind energy. Our products are manufactured and sold worldwide, primarily to parts molders and fabricators. Within the building and construction market, our Composites segment sells glass fiber and/or glass mat directly to a small number of major shingle manufacturers, including our own roofing business.

Demand for composites is driven by general global economic activity and, more specifically, by the increasing replacement of traditional materials such as aluminum, wood and steel with composites that offer lighter weight, improved strength, lack of conductivity and corrosion resistance.

### Insulation

Our insulating solutions help builders, architects and installers design homes and buildings to perform for their intended service life. Owens Corning insulation solutions are designed to help conserve energy, provide improved comfort and acoustical performance, and offer convenience of installation and use, making them a preferred insulating product for new home and commercial construction as well as remodeling. Our solutions are





## INTRODUCTION

# company profile

informed by building science and include thermal and acoustical batts, loose fill insulation, foam sheathing and accessories, and are sold under well-recognized brand names and trademarks, such as Owens Corning PINK® FIBERGLAS™ Insulation. Our insulation segment also manufactures and sells glass fiber pipe insulation, energy-efficient flexible duct media, bonded and granulated mineral wool insulation, and foam insulation used in above- and below-grade construction applications.

### Roofing

Our primary products in the Roofing business are laminate and strip asphalt roofing shingles. Other products include oxidized asphalt and roofing accessories. The acquisition of InterWrap in 2016 provided for growth in products such as synthetic roofing underlayment, protective packaging products, industrial fabrics and construction products such as housewraps and facers.

We sell shingles and roofing accessories primarily through home centers, lumberyards, retailers, distributors and contractors in the United States, and sell other asphalt products internally to manufacture residential roofing products and externally to other roofing manufacturers. We also sell asphalt to roofing contractors and distributors for built-up roofing asphalt systems and to manufacturers in a variety of other industries, including automotive, chemical, rubber and construction.



### OWENS CORNING HEADQUARTERS

One Owens Corning Parkway, Toledo, Ohio, 43659, USA

## INTRODUCTION

# stakeholder engagement and material issues

## BUILDING A NET POSITIVE COMPANY

Sustainability is at the heart of our business, from the products we make to the way we make them. We use our deep expertise in materials, manufacturing and building science to develop products and systems that save energy and improve comfort in commercial and residential buildings. Our glass reinforcements business helps us make thousands of products lighter, stronger and more durable.

We reduce the Company's environmental footprint by delivering energy-efficient and durable material solutions at scale, supporting local communities and ensuring safe work environments. Furthermore, we constantly set goals to measure, reduce and report our footprint. We are also committed to the goal of expanding our handprint around the globe, offering solutions for some of the world's most pressing issues such as climate change, energy consumption, infrastructure development, and safe, healthy and efficient homes. Based on the science of climate change, we are taking aggressive actions in our operations to reduce our environmental impact, well in advance of public policy requirements.

In keeping with our philosophy, we are committed to objectively identifying material issues and evaluating the level of impact across our value chain. We began our materiality journey in 2013 with interviews and surveys of internal and external stakeholders, and in 2014-2015, we gathered additional input to refresh our list of top issues. More information regarding these efforts can be found in the [Owens Corning Materiality Assessment 2016](#).

## 2016-2017 MATERIALITY UPDATES

In late 2016, we worked with independent sustainability communications consultants at Dix & Eaton to conduct additional internal and external stakeholder interviews. In particular, Owens Corning wanted to hear more directly from our employees not in senior leadership roles. As such, we formally interviewed nine employees, mostly outside of headquarters, to understand the issues important to them. We also followed up with six external stakeholders who participated in previous materiality interviews to confirm or clarify feedback.

One of the outcomes of that work is that we have refined our materiality assessment to reflect greater attention to issues that are of high importance to our employees. Therefore, we have elevated Employee Development, Safety and Wellness, Community Impact, and Waste Management in our materiality matrix.

In addition, we have reclassified Greenhouse Gas and Toxic Air Emissions as a priority area. Previously, due to differences in terminology, Emissions had been identified as a priority, while Climate Change was not as prominent among our stakeholders. In our latest, additional



INTRODUCTION

# stakeholder engagement and material issues

outreach, we found many stakeholders now see climate change and greenhouse gas and toxic air emissions as essentially the same, material issue.

Also as a result of this additional stakeholder input, we have made a number of changes in the format and design of our sustainability report to make it more employee- and all-reader-friendly, which are reflected in this report.

## Key Material Aspects

### ***Product Responsibility***

- Building Science
- Product Innovation
- Recycled Material
- Product Sustainability

### ***Environmental Responsibility***

- Energy Efficiency
- Greenhouse Gas and Toxic Air Emissions
- Waste Management
- Water

### ***Social Responsibility***

- Safety and Wellness
- Employee Development (includes diversity and inclusion)
- Community Impact

### ***Supply Chain Responsibility***

- Supply Chain Sustainability

### ***Economic Responsibility***

- Economic Impact
- Disclosure of Risk
- Customer Relationship Management

# stakeholder engagement and material issues

## OUR MATERIALITY MATRIX

Our materiality matrix is aligned with our key business and operational risks. It influences and shapes our sustainability strategy, defines our approach to sustainability reporting, and works as an effective tool to manage our sustainability agenda.

## Alignment with United Nations

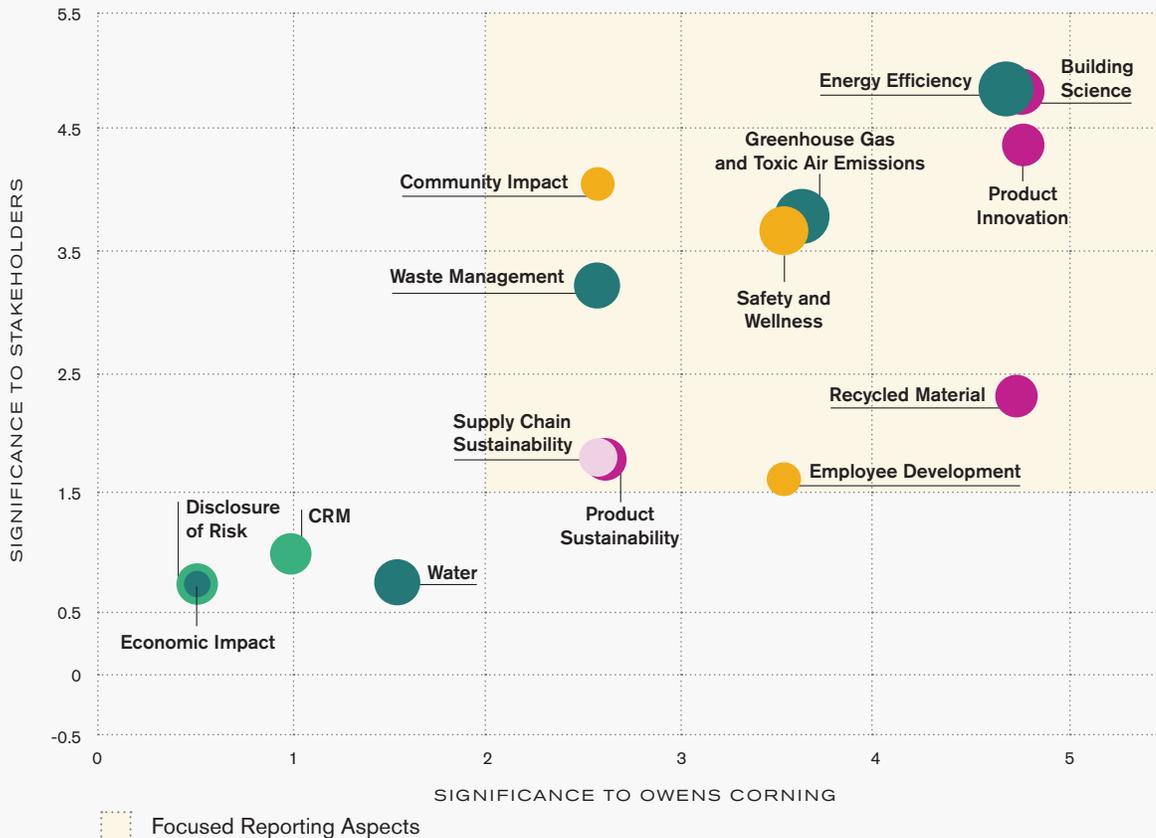
### SUSTAINABLE DEVELOPMENT GOALS

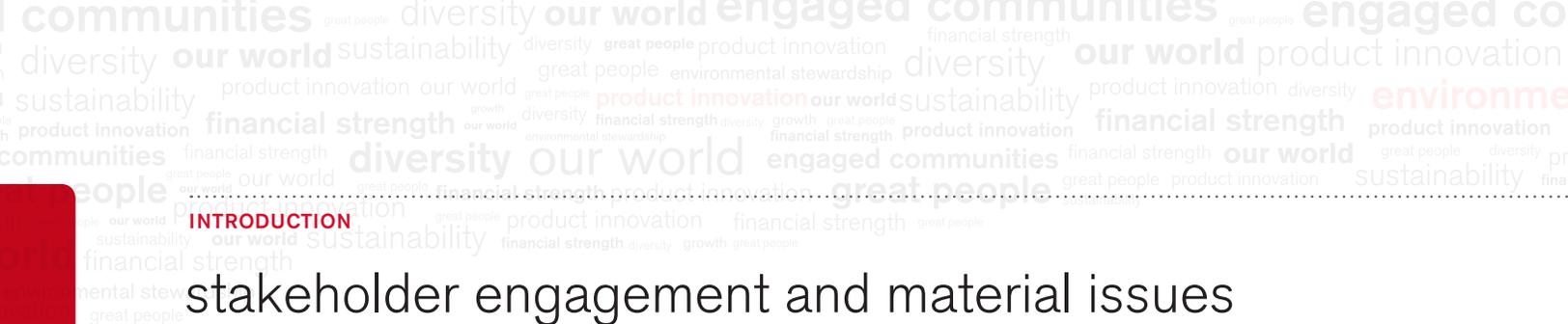
Owens Corning has identified five United Nations Sustainable Development Goals (SDGs) on which we believe we have the most direct impact through our core business competencies and are also material to our business. They are:

- #3 Good Health and Well Being
- #7 Affordable and Clean Energy
- #8 Decent Work and Economic Growth
- #12 Responsible Consumption and Production, and
- #13 Climate Action

For more information on our approach to the SDGs, see pages 18 and 19 of this report or visit our [sustainability website](#).

2016 Materiality Matrix





## INTRODUCTION

# stakeholder engagement and material issues

### ONGOING STAKEHOLDER ENGAGEMENT

Owens Corning is committed to robust sustainability reporting that aligns with the needs and priorities of our business as well as our stakeholders. Because we know business needs, stakeholder interests and industry and global trends are constantly evolving, we regularly review and update our material issues. Doing so helps us ensure we are reporting the most relevant information regarding the impact, positive or negative, of our business operations on the economy, environment and society.

Stakeholders such as customers, homeowners, architects and specifiers are often interested and inquire about our product ingredients and their safety and health impacts. To that end, we have provided mechanisms to help communicate this information through Environmental Product Declarations (for most building products) and Material Health Certifications (MHC) (for insulation products), which are third party-certified, and in the case of MHCs, assess health impacts of risk and exposure of the ingredients in the products. We also have third-party certification on low-emissions products and validation of ingredients, e.g., products that are formaldehyde-free. On a case-by-case basis, we provide more detailed information if the product is used in combination with other materials to create a new finished product. These inquiries can be handled through our 1-800-GET-PINK® call line or email at

[GETTECH@owenscorning.com](mailto:GETTECH@owenscorning.com)

EXECUTIVE SUMMARY

# alignment with united nations sustainable development goals

Owens Corning's approach to the United Nations' Sustainable Development Goals (SDGs) is a stepwise process, under which, in 2016-2017, we have been identifying how we might have:

1. Direct impact;
2. Direct influence; or
3. Indirect influence.

We are also assessing the goals in connection with our evaluation of material issues, actions already being taken in sustainability, GRI and other reporting, as well as benchmarking other companies.

There are 17 goals and 169 targets in the 2015-ratified version of the SDGs. We have identified five SDGs where we believe we have the most direct impact through our core business competencies. We have identified five additional goals that reflect our values, policies and outreach work and that we can influence, and two others where we believe we can have significant positive influence, even if indirectly. Summarized on the following page is our approach to the five goals for which we believe we have the most direct impact. Going forward, we expect to build out, and more fully describe, our alignment with the SDGs.



# alignment with united nations SDGs

## DIRECT IMPACT

### #3 Good Health and Well-Being

**Aligns with high-priority material issue:**

#### Safety and Wellness

We have a dedicated commitment to safety and wellness for employees, their families and the communities where we operate. Our Healthy Living platform is focused on promoting preventive care, healthy minds, physical activity, nutrition, financial health and a tobacco-free life. We are working toward our aspiration to eliminate lifestyle-induced, non-communicable disease in our workforce. Other areas of activity include:

- Banning cell phone use by drivers on company business and educating all drivers on the dangers of distracted driving.
- Providing benefits for all U.S. employees and working to assure that employees in other countries have access to care through their specific benefits programs by country.
- Working every day toward our goal of zero workplace injuries and employing hazard recognition and control programs.
- Providing employee assistance program (EAP) services to all of our global employees, employing on-site nurses, and educating supervisors on how to do interventions in cases of suspected substance abuse.



### #7 Affordable and Clean Energy

**Aligns with high-priority material issues: Energy Efficiency; Greenhouse Gas and Toxic Air Emissions**

We constantly strive to decrease our dependence on fossil fuels by leveraging alternative and renewable sources, as well as implementing projects to reduce energy usage.

Specific actions include:

- Employing renewable energy in the form of solar and investing in the creation of two wind energy farms to significantly reduce GHG emissions from our U.S. manufacturing. We also provide innovations to the wind energy market through our composites product group for making wind energy more productive.
- Improving energy efficiency in our facilities by working with builders and architects to construct energy-efficient buildings.
- Providing lightweight composites-based components to the automotive industry to improve fuel efficiency.



### #8 Decent Work and Economic Growth

**Aligns with high-priority material issues: Economic Impact; Employee Development; Product Innovation; Safety and Wellness**

We are dedicated to being economically healthy, and to balancing economic growth with social progress and environmental stewardship. With our positive revenue results and growth strategy, we are confident our operations will have a positive impact on the economy in the countries where we operate.



Our areas of focus include:

- Providing good, safe jobs – consistent with our goal to achieve zero workplace injuries.
- Attracting and retaining a workforce that enables us to meet and exceed our customers' needs and market trends.
- Fostering greater diversity in our global workplace. Diversity is a core value and we have many programs in place to achieve a representative workforce and inclusive workplace.
- Taking a leadership role to eradicate forced labor, child labor and human trafficking. The Owens Corning Code of Conduct, our Supplier Code of Conduct and our Human Rights Policy are strong statements about our commitment in these areas. Owens Corning has been a signatory to the UN Global Compact since 2010.

### #12 Responsible Consumption and Production

**Aligns with high-priority material issues: Energy Efficiency; Recycled Materials; Supply Chain Sustainability; Waste Management**

We have extensive sustainability practices for the supply chain, product sustainability and manufacturing. These activities include:

- Implementing comprehensive goals and programs for material, water and energy conservation – including, where possible, using recycled or plant-based content, process waste recycling, and providing for reuse or recyclable products at the end of their life.
- Implementing comprehensive goals and programs for emissions and waste reduction, including our “zero waste” aspiration.
- Promoting public procurement practices that are sustainable in accordance with national policies and priorities.



### #13 Climate Action

**Aligns with high-priority material issues: Building Science; Greenhouse Gas and Toxic Air Emissions**

We focus on accelerating energy efficiency improvements, renewable energy deployment, and greenhouse gas (GHG) emission reductions to reduce the impact of our operations and activities on global climate change. Our GHG reduction goals were informed by science-based methodologies designed to reduce carbon emissions to limit global warming to less than 2°C compared to pre-industrial temperatures. Our activities include:

- Conducting risk assessments and mitigation programs related to climate change risk.
- Joining with builders, architects and engineers to provide technical information and product innovations for resilience in building construction and infrastructure.
- Providing education internally and with customers and suppliers on sustainability practices – including our Sustainability Summit and Supplier Day Summit.





# product responsibility

2

- BUILDING SCIENCE
- PRODUCT INNOVATION
- PRODUCT SUSTAINABILITY
- PRODUCT STEWARDSHIP



## PRODUCT RESPONSIBILITY

# building science

Building science is a key element in driving our product sustainability. Through partnerships and outreach to customers, architects and builders, it is our goal to drive beyond net-zero energy building capabilities to passive house specifications, thereby achieving no net carbon releases. We also look to share our building science expertise with the industry and educate builders and contractors on how to create comfortable structures through the use of safe and efficient building materials.

## STRATEGY AND APPROACH

Today, the building industry faces tougher code compliance and higher expectations than ever, including more stringent International Energy Conservation Code (IECC) regulations and the Energy Rating Index (ERI) compliance path. Owens Corning understands these hurdles and has implemented building science as a way to continuously research and develop smarter ways to build better, more sustainable homes. Using building science, we are able to view a house as a system and find ways to improve the efficiency of an entire structure so builders, homeowners and other customers can create a comfortable, high-performance environment.

In addition to looking at standard improvements that builders and homeowners can make, such as adding internal insulation, we take it a step further and analyze how efficiencies can be added to the entire build, even taking the geographical environment into consideration. We strive to improve quality of life and increase energy efficiency by using innovative building products. Our insulation products are used in a home's walls, roof and foundation to provide air sealing, moisture management and acoustic solutions that improve the overall energy efficiency and comfort performance. Owens Corning knows that building a sustainable home has become much

more than simply making it energy-efficient. Homeowners also want a structure that is durable, affordable and, most importantly, comfortable.

### Increasing the Number of Net-Zero-Ready Buildings

In 2015, Owens Corning set a goal to increase the number of Owens Corning-supported net-zero-ready buildings year-over-year vs. a 2015 baseline of 35.

Through two new partnerships, we have taken significant steps toward achieving this goal. Owens Corning joined forces with Beazer Homes in California to develop nearly 150 extreme high-performance homes that are integrating our innovative High Performance Conditioned Attics (HPCA). We are also helping improve the energy efficiency in their upcoming second development in California. Additionally, we have partnered with Great Southern Homes on several big building projects taking place in South Carolina.

## PRODUCT RESPONSIBILITY

# building science

### **PARTNERSHIPS AND COLLABORATIONS**

We are dedicated to collaborating with builders to help them apply building science to all aspects of their projects. Our teams work hand-in-hand with builders, from blueprint through the construction phase, to address climate challenges and achieve performance goals as measured in part by the Home Energy Rating System (HERS) Index.

#### **The New American Home® 2016**

In 2016, Owens Corning partnered with Element Design Build to apply our building science expertise to The New American Home (TNAH) presented by the National Association of Home Builders' (NAHB) Leading Suppliers Council. The nearly 5,100-square-foot home, located in Las Vegas, Nevada, is made primarily of glass, making it a particularly difficult design that required many unique science-driven efficiencies.

Owens Corning collaborated with Element Design Build from the beginning, understanding the building concept, breaking down each section of the design, and using scientific insights to determine what materials would create optimal performance, efficiency and comfort throughout the entire home.

Our team ended up using several different insulation products in the home's walls, roof and foundation to provide air sealing, moisture management and acoustic solutions that improved the overall energy efficiency and comfort of the home. Whether Las Vegas is experiencing triple-digit temperatures or cold desert nights, Owens Corning building science has ensured that the home will always provide the highest level of comfort.

#### **Improving Building Codes**

To keep homes warm in Chile, many residents burn large amounts of wood, which has resulted in severe environmental pollution across the country, especially in metropolitan regions. Owens Corning has been working closely with Chilean government organizations to improve building codes related to establishing requirements for both external and interior insulation. Through research, our Building Science Team found that the additional improvement in external insulation would help keep homes warmer, allowing residents to cut

## **DEVELOPING NET-ZERO HOMES**

### Throughout Canada

In our 2015 report, we announced our role in the largest Net-Zero Energy (NZE) community demonstration in Canada to date. Employing enhanced energy-efficiency design strategies to cost-effectively reduce energy needs, NZE homes aim to meet those needs with renewable energy technologies while the building consumes equal to or less energy than it produces on an annual basis.

As the lead proponent of this project, Owens Corning Canada worked with five homebuilders: Construction Voyer (Laval, Quebec); Mattamy Homes Limited (Calgary, Alberta); Minto Communities (Ottawa, Ontario); Provident Development Inc. (Halifax, Nova Scotia); and Reid's Heritage Homes (Guelph, Ontario).

In 2016, 20 NZE homes and one multi-unit condominium project were completed throughout various parts of Canada. Three key components went into these NZE homes: continuous insulation, heat pumps for space and water heating, and solar photovoltaics. This project was completed in line with Natural Resources Canada's ecoENERGY Innovation Initiative (ecoEII), which is focused on long-term solutions to eliminate air pollutants and greenhouse gas (GHG) emissions from energy production.

The additional builder cost for a single-family NZE home is around \$15,000, but this cost is on the decline, making it feasible for more builders to adopt this method. The majority of the NZE homes have since sold, and Owens Corning will monitor energy consumption over the next three years to measure efficiency. Looking ahead, Owens Corning Canada has applied for a grant from the federal government to focus on additional development, including full net-zero communities.



PRODUCT RESPONSIBILITY

## building science

down on wood burning. These changes in code would help more than 1,000 homes, and have a significant impact in reducing the country's pollution.

In the U.S., Owens Corning building scientists are working with regulatory bodies around the country to shape 2018-2019 building codes. Our team is helping organizations think holistically about energy efficiency and correct guidelines for insulation.

In 2016, about 2,600 homes in Texas were air sealed with Owens Corning's innovative PROPINK ComfortSeal™ gasket system that was developed by our Building Science Team with an additional ribbed featured to enhance the air tightness of homes. With code requirements dropping to 3 ACH50, few options existed for builders, and with this product and air sealing systems developed by Owens Corning, builders were better able to comply with these stringent code requirements.

One unique development was the deeply buried ducts project. Working with the R&D staff from the Science & Technology group at Owens Corning and external stakeholders such as K. Hovnanian Homes and Home Innovation Research Labs (HIRL), our Building Science Team was able to introduce IRC 2018 code changes that allow builders to attain energy equivalency for ducts in conditioned space while maintaining ducts in existing ventilated attics, making essentially minor changes to existing practices but impacting the energy efficiency of the whole building in a substantial manner.

### **BUILDING SCIENCE EDUCATION**

In addition to using building science to develop better products and systems internally, Owens Corning is using its expertise to educate the industry on how to improve efficiency across the board. Our team uses education sessions to help engineers, contractors and homeowners look at the total build and provide suggestions on how to elevate their sustainability efforts. For example, most builders know that adding internal insulation helps energy efficiency, but we take things one step further and teach builders about the importance of air sealing – a technique that gives an automatic increase to the overall efficiency of a building. It is part of the Building Science Team's goal to help builders and contractors understand the added value of these sometimes overlooked methods.

Owens Corning has committed to training architects on sustainability design by sponsoring educational training on the use of advanced hydrothermal tools such as WUFI, and WUFI Passive. In 2016, more than 80 architects/building envelope consultants trained in either a 2-day or 3-day course.



**PRODUCT RESPONSIBILITY**  
building science

About 20 builders from around the country traveled to Granville, Ohio, for the first Building Genius Summit where they learned both from Owens Corning and external speakers, as well as from each other on how to raise the bar on performance of the homes they build, how to do it affordably, how to bring value to their homebuyers, and how to contribute to sustainability.

In 2016, our Building Science Team continued to work with the National Association of Home Builders (NAHB) to educate members about building durability and strategic insulation. Over the course of a year, our scientists attended nearly 50 building clinic club meetings to discuss these topics and collaborate to achieve new standards for comfort, durability, affordability and efficiency in home building.

Additionally, our Building Science Team conducted a study to help educate builders about the importance of insulation. In the study, Jon Girod, Quail Homes owner and builder, worked closely with our Building Science Team to directly link the durability of a home with using the right amount of insulation. This level of insulation was higher than that required by code but allowed one to use a safety factor in the design of the walls in climates that had high levels of water present. This science-based, educational study provides builders with evidence that the strategic use of insulation is a critical piece in extending the lifespan of a home.





## PRODUCT RESPONSIBILITY

# product innovation

At Owens Corning, we are committed to providing innovative products and solutions that deliver increasing value to our customers while addressing significant global issues such as environmental impact, energy efficiency and quality of life. Sustainability is a priority as we design new products and processes, and we recognize that the solutions we develop will affect a large portion of the global community. Fostering an innovative spirit to address important challenges will continue to be a cornerstone of our industry leadership and our commitment to make the world a better place.

## STRATEGY AND APPROACH

We strive to develop and deliver new offerings in our core businesses of Composites, Insulation and Roofing, as well as create “game-changing” new products in a growing range of key market segments, such as alternative energy, transportation and communications. We work in close collaboration with our customers to develop solutions that address all of their needs and the changing demands of the marketplace. We have eight worldwide science and technology (S&T) centers located in key markets, and we offer one of the strongest technical teams in the industry, enabling us to respond quickly to changes in the markets and our customers’ businesses. We also partner with the world’s foremost leaders in binder and coating technology to develop additional solutions-based products.

Our employees’ commitment to innovation is a key to our success. Merging our employees’ ideas with customers’ feedback drives the innovation process. Within our organization, we have developed unique relationship networks and “town hall” meetings that encourage people to connect and foster innovation, and sustainability is one of the most active areas for innovation.

## Commitments and Goals

We are committed to evaluate 100% of our new and significantly modified products through our stringent product stewardship process. Additionally, we are committed to evaluating each of these programs for their net sustainability gains or losses compared with existing products.

## SUSTAINABILITY-DRIVEN INNOVATION

In all three of our core businesses, we continue to leverage our technology expertise to develop a growing range of solutions and applications to address sustainability-related needs in global markets.

## Composites Business

In collaboration with customers, we continually develop innovative fiberglass-reinforced composites that provide a variety of benefits, including lightweight, improved

## PRODUCT RESPONSIBILITY

# product innovation

mechanical properties, and resistance to corrosion, impact, heat and sound absorption. Because of these unique features, glass reinforced composites display attractive value propositions vs. other materials such as steel, aluminum and wood in a wide range of applications. In addition, from a life cycle point of view, Owens Corning's multiple assessments conclude that composites often have less impact on the environment than competing materials, taking into consideration raw materials extraction, manufacturing, installation, maintenance and end-of-life factors.

Recent developments in the **Composites** business include:

- **Glass fiber products and glass fabrics** that drive for cost effective wind energy. By enabling longer, stiffer and lighter wind blades through our performances fabrics solutions Ultrablade™, Owens Corning glass fiber reinforced composites technology lowers the cost of wind energy, thus contributing to the worldwide advancement of this alternative source of energy production.
- **New thermoset and thermoplastics glass fiber products** to serve the automotive industry and enable for lighter cars and consequently lower fuel consumption and CO<sub>2</sub> emissions.
- **Corrosion resistant glass fiber solution for industrial applications** such as chemical tank storage and bridge decks in marine environment
- **New PipeStrand® reinforcements for the pipe industry** that enable significant performance improvement, material savings and productivity gain in winding applications, a large segment of the composites market. Typical applications include water distribution, sewage, oil and gas, and transportation.
- **Sound absorption solutions for cars mufflers** using Owens Corning Silentex technology, which is more cost effective for car makers thanks to Owens Corning's proprietary nozzle and glass technologies.
- **Serving building markets with non-woven solutions** that enable high performance ceilings, reinforcement of flooring and carpet tiles. To support U.S. market growth, Owens Corning recently opened a manufacturing facility in Gastonia, North Carolina, which features advanced automation and non-woven technologies that minimize environmental impact.

Composites innovations are driving for sustainable business impact. For 2017, we are projecting that 30% of Composites revenues will be based on products less than three years old, protected by a portfolio of more than 1,000 active patents.

## Chambéry, France

### 'iLAB' INSPIRES INNOVATION

Owens Corning's science and technology centers are naturally focused on innovation. But even how they do it is innovative.

For example, the front end innovation (FEI) team at the science and technology (S&T) center in Chambéry, France, has created an "iLab" where employees meet monthly to discover new opportunities. The meetings include an "iLab" pitch, inspired by TED Talks, focusing on market trends, new materials and business opportunities. It often includes external speakers who partner with Owens Corning's Composites business.

Among the topics have been 3-D printing applications for composites, how companies partner with Owens Corning on science and technology, and a phased approach to innovation.

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# product innovation

### Insulation Business

In the 1930s, Owens Corning pioneered the use of fiberglass insulation, which remains the most widely used type of insulation in the United States, Canada and Mexico. Today, we continue to develop new insulation solutions that meet the performance and process expectations of our customers and markets, while contributing to the worldwide effort toward reducing greenhouse gases and enhance energy efficiency. Innovations range from our Pure Safety® high-performance insulation, which is the world's first building product to earn the asthma & allergy friendly™ Certification, to insulation solutions for buried ducts, which improves the energy efficiency of a home's heating and cooling system.

Other recent **Insulation** innovations include:

- **Creating new high-performance wall and attic solutions** designed to conserve energy and allow contractors to meet increasingly stringent building codes. Our new PROPINK® High Performance Conditioned Attic System maximizes the energy efficiency of the home by air-sealing and insulating the attic. The advantages of the unvented attic are becoming increasingly recognized in the industry to help improve energy conservation and moisture management.
- **Expanding our EcoTouch® Insulation platform with Next Generation products** that reaffirm our commitment to using sustainable manufacturing processes and bio-based materials, while helping customers save money and energy. Our growing line of EcoTouch® products features components such as bio-based binders, high-recycled-glass content, formaldehyde-free formulations, and reduced volatile organic compounds.
- **Introducing new extruded polystyrene (XPS) and mineral wool insulation products to provide energy-saving thermal protection** for HVAC, mechanical and commercial applications. FOAMULAR® XPS Insulation is a lightweight, rigid foam panel that provides durability and damage resistance. In 2016, to meet both regulations and market demand, we announced the transition to a fire retardant that contains no hexabromocyclododecane (HBCD).
- **Making progress on a new \$90 million manufacturing facility** in Joplin, Missouri, to produce the first formaldehyde-free, light-density mineral wool insulation in North America.









## PRODUCT RESPONSIBILITY

# product innovation

### AWARDS PROGRAMS RECOGNIZE INNOVATION EXCELLENCE ACROSS THE COMPANY

Owens Corning's Slayerter and Marzocchi Awards are designed to recognize the best and brightest minds within our global Innovation teams. These awards recognize their contributions in areas such as productivity/waste elimination, new product innovation, and other special achievement categories such as human-centered design solutions, speed-to-commercialization and patent applications.

**SLAYTER AWARDS:** There were three key people associated with the invention of "commercial" glass fibers that spawned our company – Games Slayerter, Jack Thomas and Dale Kleist. Slayerter was subsequently dubbed the "Father of Fiberglas," went on to become the first Vice President of Research and Development in 1938, and the Granville site was dedicated to him in 1961. Slayerter, Thomas and Kleist were all inducted into the National Inventors Hall of Fame in 2006.



Games Slayerter

In 2016, 13 project teams received Slayerter Awards under the following categories.

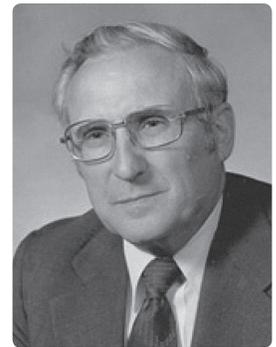
- **Productivity/Waste Elimination** is given to an individual or team that can demonstrate delivered productivity improvements in the given year. In 2016, the award was given to a team that redesigned an element of our Composites manufacturing process to reduce costs and raw material usage.
- **New Product Innovation** is given to products launched after January 1 of the prior year that have clearly added differentiated value to our customers. This award was given to a team that developed a new product for use in road construction as well as a team that worked developed the Sustaina® bio-based binder technology.
- Special Achievement Categories
  - » **Advancing Fundamental Science** is given to individuals who demonstrate a major contribution based on deep scientific or technical work that drives significant learnings for the company. In 2016, this award was given to an individual in our Science & Technology organization who developed a new concept for our formulations.
  - » **Choice to Try** is given to ambitious projects that had a compelling hypothesis and significant value creation potential but did not ultimately advance to commercialization due to findings during discovery. In 2016, this award went to a project team that used modeling and research to answer basic questions, saving hours of experiments.
  - » **Early Career Innovation** specifically seeks out concepts from young professionals with less than five years work experience to solve customers' needs or manufacturing challenges. New for 2016, this award was given to a team member who used human-centered design experiments to uncover a way to use a combination of raw materials to quickly develop a new, simple product that addressed customer needs.

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- » **Human-Centered Design (HCD) Solution** was awarded to a team that used HCD and behavioral techniques to create a product for the building materials market that has received the first asthma & allergy friendly™ Certification for insulation, Pure Safety®.
- » **Open Innovation** is given to those Owens Corning employees who accelerate implementation or commercialization of new external sourcing ideas. In 2016, the award was given to an individual at our Santa Clara location who worked on a system reliability software solution.
- » **Speed-to-Commercialization** awards those individuals for achievement of both speed and business impact. This award in 2016 was given to a (1) team at Owens Corning that completed research, modeling and testing to meet a customer's needs in the Insulation market, (2) a Roofing team that used HCD, and (3) reduced time to market for a large customer using in-house rapid prototyping capabilities.
- » **Sustainability Innovation** is given to those projects that enable Owens Corning to accelerate meeting its 2020 sustainability goals or to surpass them. In 2016, the award was given to a team that changed the formulation of a product to reduce greenhouse gas emissions with no change in product performance or appearance.

**MARZOCCHI AWARDS:** The intellectual property award is named after Al Marzocchi, the all-time Owens Corning record patent holder. His patents span four decades from the 1950s through the 1980s and several technology platforms. The Marzocchi Award is presented for achievements in invention that result in milestone numbers of patents and trade secrets: 15 for Bronze, 20 for Silver, 25 for Gold, 30 for Platinum, 35 for Rhodium and 40+ for Diamond. In 2016, we recognized nine awardees in this category.



Al Marzocchi



## PRODUCT RESPONSIBILITY

# product sustainability

Owens Corning is committed to developing products that provide valuable benefits for our customers and consumers, while safeguarding, sustaining and improving the natural environment for the benefit of current and future generations. Our people and products make the world a better place, and our commitment to innovation drives our effort to continually introduce more sustainable products to meet the ever-increasing expectations of a dynamic marketplace.

## STRATEGY AND APPROACH

Owens Corning is a world leader in insulation, roofing and fiberglass composite solutions, delivering a broad range of high-quality products and services. Owens Corning believes product sustainability is attribute-based, and we focus on the following areas:

- Saving energy and water;
- Using salvaged, recycled or plant-based content;
- Conserving natural resources by reducing material usage, exceptional durability or low maintenance, and use of renewable materials;
- Avoiding the use of toxic or other materials;
- Contributing to a safe, healthy indoor environment; and
- Ensuring products are reusable and recyclable at end of life.

In particular, recycled content in building materials is seen as a valued attribute in green building guidelines and certifications. It can also serve to reduce waste and save resources in our manufacturing operations. We seek to include or increase the content of recycled materials in our products and packaging either in initial design through continuous improvement, validated by third-party verification bodies such as SCS

Global Services and ICC-ES. We also offer documentation for green building programs such as LEED®, as well as promote the use of recycled content and the education of customers and consumers on the value this brings to reducing landfill waste, saving resources and conserving energy.

Aligned with our commitment to the **United Nations Sustainable Development Goal #13, Climate Action**, we are focused on improving our education efforts and raising awareness. We conduct education throughout the Company as well as with customers and suppliers on sustainability practices, including our Sustainability Summit and Supplier Day Summit.

## Building Transparency Around Our Products' Environmental Impacts

We are focused on developing sustainable products and evaluating our products' impact throughout their life cycles. Being transparent about the total life cycle of our products is a key part of our 2020 goals, and we have adopted the following two-part

## PRODUCT RESPONSIBILITY

# product sustainability

methodology to show the life cycle environmental impacts of our core products:

- Conduct a Life Cycle Assessment (LCA) according to the ISO 14040, 14044 and 14025 standards, followed by an external, third-party review and verification.
- Develop an Environmental Product Declaration (EPD) from the LCA, and implement continuous and measurable improvements related to those impacts.

### **Life Cycle Assessment**

Owens Corning calculates the environmental footprint of its products by conducting full cradle-to-grave LCAs to examine all stages of a product's life. The assessment measures the life cycle environmental impacts of our core products by following the two-part methodology outlined above. This includes the extraction of raw material inputs, continues through processing, manufacturing and product use, and ends with disposal or recycling.

LCAs have been conducted on a variety of Owens Corning products. These include fiberglass, mineral wool and extruded polystyrene (XPS) foam insulation as well as composite glass product offerings, which encompass reinforcements, non-woven mats and technical fabrics. Performing LCAs on many of our core products has identified opportunities for improvement in our processes and products.

### **Shingle Recycling**

Owens Corning is the first roofing manufacturer to establish a program for recycling shingles. Recycling torn-off shingles helps the environment in two ways: (1) old shingles don't end up in landfills, and (2) they get repurposed as pavement. Each year in the U.S., approximately 10 million tons of recyclable shingles are removed from the roofs of homes and buildings.

Through a national strategic alliance with Earth911 and Heritage Environmental, we connect contractors with convenient recycling facilities. We have also added recycling centers annually, working with Earth911 to promote the program and provide site information on where to recycle.

As part of the program, contractors pledge to recycle their shingle tear-offs. In addition to keeping shingle waste out of landfills, contractors benefit by promoting sustainable business practices to homeowners.

In 2016, we recycled over 2.5 billion pounds of end-of-life shingles through our recycling network, or the equivalent of 371,000 roofs. This is an increase of 1% over 2015 recycling levels. We also had 14 new contractors in our Contractor Network pledge to recycle.



## PRODUCT RESPONSIBILITY

# product sustainability

### Product Certifications

Owens Corning uses third-party organizations to test and certify product attributes and to disclose environmental and human health impacts. An Environmental Product Declaration (EPD) is the disclosure in accordance with ISO 14025 of a product's environmental impacts throughout its life cycle. Owens Corning issued the first North American EPD for fiberglass insulation in November 2012, followed by the first North American XPS foam insulation EPD in November 2013. EPDs also have been issued for mineral wool products, with the remaining building products completed in 2015. All are certified by UL Environment and can be found at the UL Sustainable Product Database or at Owens Corning's architectural and engineering center.

In addition, unbonded loosefill insulation (ULF), made in Mount Vernon, Ohio, was the first product to receive the Living Product Challenge Imperative Certification, on May 10, 2016, and EcoTouch® Unfaced, made in Santa Clara, California, also received certification, on September 13, 2016. Both products met 12 out of 20 imperatives.

Owens Corning ULF provides industry-leading thermal performance and yield when blown into open attic insulation applications. Produced with few ingredients, the loosefill fiberglass product is used in new and existing construction to help prevent heat transfer in the building envelope. The Mount Vernon plant is one of the most state-of-the-art within the Company's portfolio and is virtually waste-free.

Owens Corning created EcoTouch® Batt Insulation with PureFiber® Technology, a revolutionary new product platform that includes an average of 65% recycled content, with a minimum of 47% post-consumer recycled glass. The balance is 18% pre-consumer recycled glass content. The product meets the strict certification standards for indoor air quality, is validated formaldehyde-free and carries the GreenGuard Gold certification. The Santa Clara plant has been in continuous operation since July 5, 1949, and is nearly waste-free.

### RECYCLED CONTENT IN PRIMARY PRODUCTS AND SERVICES

Below we have provided a further explanation on recycled content in different products and services across the organization.

#### Insulation Products

Owens Corning is a leader in recycled content for fiberglass insulation, ranging from a minimum of 53% recycled content in our products to a high of 73% for our Canadian-made products. We also have a high certified post-consumer amount for our light-density building insulation. Our North American residential fiberglass insulation is certified by SCS Global Services to contain at least 55% recycled content, while our commercial and industrial fiberglass insulation, is certified to have a minimum of 53% recycled content.

## PRODUCT RESPONSIBILITY

# product sustainability

In 2016, we consumed 1.33 billion pounds of recycled glass globally. Additionally, our XPS foam insulation in North America has 20% certified pre-consumer content. To develop sources for recycled material, we work with suppliers such as Ripple Glass in Kansas City, Missouri, where we assisted in establishing a waste glass processing plant, which takes 85% of the collected glass to be made into insulation.

Our Thermafiber® Mineral Wool Insulation is manufactured to have a minimum of 70% recycled content and is validated by ICC-ES.

### Roofing Products

Other Owens Corning products, including Roofing products, have recycled content dependent on where they are produced. The effort to recycle extends to our plant operations, with some of our roofing and asphalt business recycling up to about 10% of their materials.

### Increasing the Amount of Recycled Content That Goes into Our Products

We have a multi-pronged approach toward enhancing recycled content:

- **Seek to include or increase the content of recycled materials** in our products and packaging either in initial design or continuous improvement.
- **Validate recycled content through third-party verification bodies**, such as Scientific Certification Systems and UL Environment, and offer documentation for use in green building programs such as LEED®.
- **Promote the attributes of recycled content** and educate customers and consumers on the value this brings to reducing landfill waste and saving resources and energy.
- **Promote green product and green operations** including the benefits of recycled content and reducing impact in the LCA of the product for all the industries we serve.
- **Participate as a member of organizations that promote recycled content** in products including the USGBC and their LEED® program.

### 2016 Recycled Input Materials

Materials Used	
Total weight of materials used	6,979,000 metric tons
Total volume of recycled raw materials	762,600 metric tons
Percent of recycled content	11%

PRODUCT RESPONSIBILITY

## product sustainability

Owens Corning is a member and on the advisory board of the Container Recycling Institute, driving to make North America a more efficient model for collection and quality of recycled containers. Initiatives include studying and producing research, and reporting and education for communities to more effectively reduce waste and increase recovery rates from landfills on local, state and national agency levels.

### **Glass Recycling**

Owens Corning is one of the largest users of recycled glass in the world, using over 1 billion pounds annually of curbside consumer containers and pre-consumer recycled glass. Using recycled glass not only decreases community landfill waste, but also lowers our energy use when manufacturing insulation, because starting with raw materials such as sand requires more energy.

Although we strive for higher recycled-glass content, we realize the recycling of glass is at risk. While glass bottles and jars can be endlessly recycled and produced into fiberglass insulation as well as other uses, according to the United States Environmental Protection Agency and reported by GPI.org, only approximately 33% of all glass containers were recycled in 2014. Glass recycling is currently under immense pressure and numerous municipalities across the U.S. have made the decision to remove glass from their curbside recycling programs, further threatening future cullet supply.

To counteract these trends, Owens Corning is actively involved with a number of organizations to make glass recycling a successful industry, such as the newly formed Glass Recycling Coalition (GRC). The GRC is a partnership of organizations throughout the entire glass recycling supply chain that work to develop strategies to assist municipalities with glass recycling decisions and establish a network of glass recycling resources and champions. Owens Corning has also been involved in glass recycling workshops aimed at creating an open dialogue of stakeholders from the recycled glass supply chain.

Additionally, Owens Corning is driving for higher recycling rates and diversion of glass containers from landfill through the North American Insulation Manufacturers Association (NAIMA) and the formation of a Glass Cullet Task Force. The objective of this task force is to improve communication on end use of glass containers to make fiberglass, improve glass container recycling rates, improve glass cullet quality and protect current recycling programs on the state and local level. Owens Corning is also involved in several educational and informational workshops including those by the Closed Loop Fund and the Georgia Glass Recycling Workshop coordinated by Strategic Materials Inc. (SMI).

## PRODUCT RESPONSIBILITY

# product sustainability

## ENVIRONMENTAL IMPACTS – PRODUCTS AND SERVICES

At Owens Corning, in addition to calculating the environmental footprint of our products through LCAs, we conduct product stewardship reviews of new and significantly modified products to ensure that our products perform as claimed and are safe and environmentally sound to make, use and dispose of. As part of these reviews, compliance with environmental laws and requirements is discussed for the manufacturing plants making these products. Additionally, we are committed to evaluating each of these products for their net sustainability gains or losses compared to existing products.

We have documented guidelines on banned and restricted substances.

The guidelines apply to all Owens Corning-controlled domestic and foreign subsidiaries and all other legal entities in which Owens Corning has control. Our guidelines apply to the use of raw materials and other substances in all of our business activities related to our products, including research and development, manufacturing, tolling operations, distribution and materials used to maintain our facilities and equipment.

Owens Corning has some products with ingredients, that have been banned in other regions, usually on a timeline for discontinuance. Owens Corning's product stewardship commitment includes comprehensive risk assessments to assure such products can be used without harm to people and the environment. In addition, when this situation is known, an optimization plan is put into action to address the product line, and research and development is enabled to address material substitution.

Owens Corning also sells products with ingredients that are the subject of stakeholder questions or banned by certain green building programs. Again, with product stewardship review and assessment, optimization programs are developed.

Owens Corning strictly adheres to the Company's internal controls for Environmental, Health and Safety, which are incorporated in our Business Code of Conduct process. As a result of these efforts and stringent voluntary commitments, we are not aware of any cases in 2016 where grievances were filed, addressed or resolved related to environmental impacts.

## KB Home Acknowledges

# PARTNERSHIP

In its 2016 sustainability report KB Home, a large U.S. homebuilder, mentioned its use of Owens Corning products. KB Home is an industry leader in building sustainable, energy- and water-efficient new homes. The report noted that the use of Owens Corning EcoTouch® PINK® FIBERGLAS™ insulation in the construction of homes provides energy efficiency and noise control, and is designed to minimize environmental and health impacts.

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# product sustainability

### HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICES

All new and significantly modified existing products sold by Owens Corning undergo a comprehensive Product Stewardship Review to ensure they perform as claimed and that they are safe and environmentally sound throughout the manufacturing, usage and disposal stages of the product's entire life cycle. The Product Stewardship Reviews address all elements of Owens Corning's Environmental, Health, Safety and Product Stewardship Policy. Guidelines for product developers, engineers and scientists are also developed to guide product/process development following Owens Corning's standards. We have conducted close to 1,200 such reviews since 1997 and nearly 900 since 2006, when Product Stewardship Reviews were made a mandatory element of our Business Code of Conduct.

As part of our product stewardship process, developers are asked to complete a questionnaire that generates a sustainability map of the product throughout its life cycle. This Sustainability Mapping Tool is used to evaluate how the new product or process will impact the Company's sustainability goals and to drive decisions in the design phase that will achieve a portfolio of more sustainable products. Summary reports from these assessments identifying trends and opportunities are published on a quarterly basis.

In 2016, 62% of new products and 75% of new applications for our products have shown net sustainability gains. These gains were most frequently caused by product developments that improved our manufacturing footprint, such as lower plant air emissions, lower material consumption, lower energy usage and higher process efficiencies. We also continue to adopt new product designs that use fewer materials and result in less energy usage for the end user. Another frequent cause of gains in 2016 was moving to new product designs that use fewer materials and result in less energy usage for the end user.

To further our work to understand material health impact of products, in 2015 we had third-party assessments conducted by MBDC, and were awarded Material Health Certifications by the Cradle to Cradle Institute on the majority of our insulation products, comprising 25% of total revenue.

Owens Corning's policy is that 100% of significantly modified products and services must be assessed for health and safety impacts.

Owens Corning's policy is that

**100%** OF SIGNIFICANTLY  
MODIFIED PRODUCTS

and services must be assessed  
for health and safety impacts

## PRODUCT RESPONSIBILITY

# product sustainability

### Glass Fiber Safety

There is extensive research showing that Owens Corning Insulation glass fibers are safe to manufacture and use when recommended work practices are followed. Among the most recent developments supporting the safety of Owens Corning Insulation products is the decision by the U.S. National Toxicology Program to remove soluble glass wool fibers from their list of substances “reasonably anticipated to be human carcinogen.” Their decision was released June 10, 2012, in their report to the U.S. Congress titled the 12th Report on Carcinogens. On November 18, 2011, soluble glass fibers were removed from the California Prop 65 list.

The original safety of glass wool was first questioned in the 1980s when it was added to the International Agency for Research on Cancer’s list of possible carcinogens following animal studies using an unusual, invasive exposure procedure never encountered in the normal use of insulation. However, the organization removed glass wool fibers from its list of possible carcinogens in 2001.

### Product and Service Information and Labeling

Safe use of the product or service is required to be labeled. Product content information is included in fiberglass insulation product labeling and is included in EPDs. Component content and disposal information is included on MSDS, SDS or Safe Use Instruction Sheets (SUIS).

We have conducted full cradle-to-grave LCAs and have been issued EPDs on the following products: EcoTouch® Unfaced Fiberglas™ Insulation; EcoTouch® Kraft-Faced Fiberglas™ Insulation; Unbonded Loosefill; FOAMULAR® XPS Insulation; EcoTouch® Foil-Faced Fiberglas™ Insulation; EcoTouch® Flame Spread 25 Insulation; Thermafiber® Mineral Wool Insulation; Owens Corning Asphalt Shingles; Fiberglas™ Pipe Insulation; 700 Series Fiberglas™ Insulation; QuietR® Duct Board; EcoTouch® Insulation for Flexible Duct; SOFTR® Duct Wrap; and EcoTouch® Insulation for Metal Building. These products accounted for approximately 50% of 2016 revenues.

Prior to packaging being used in the marketplace, there is a thorough review by technical services, the law department and each business unit to ensure compliance with all regulations and codes. Owens Corning had no significant incidents of noncompliance with regulations or voluntary codes concerning labeling of our products and material services.

### RECLAIMING OF PRODUCTS AND PACKAGING

The packaging for all of our business lines is recyclable. Owens Corning utilizes wood pallets, which are reused throughout our plants, and the majority are recycled at the end of life.

Cardboard is used with some of our products. Recyclable totes, bags and super sacks are used throughout our Composites business.

## PRODUCT RESPONSIBILITY

# product stewardship

Our Product Stewardship process is designed to ensure we provide products that are safe and environmentally sound to make, use and dispose of – and that they perform in line with what we claim they will do. In addition, our Environmental, Health, Safety and Product Stewardship Policy states that we are dedicated to providing useful information on the performance and safe use of our products.

## STRATEGY AND APPROACH

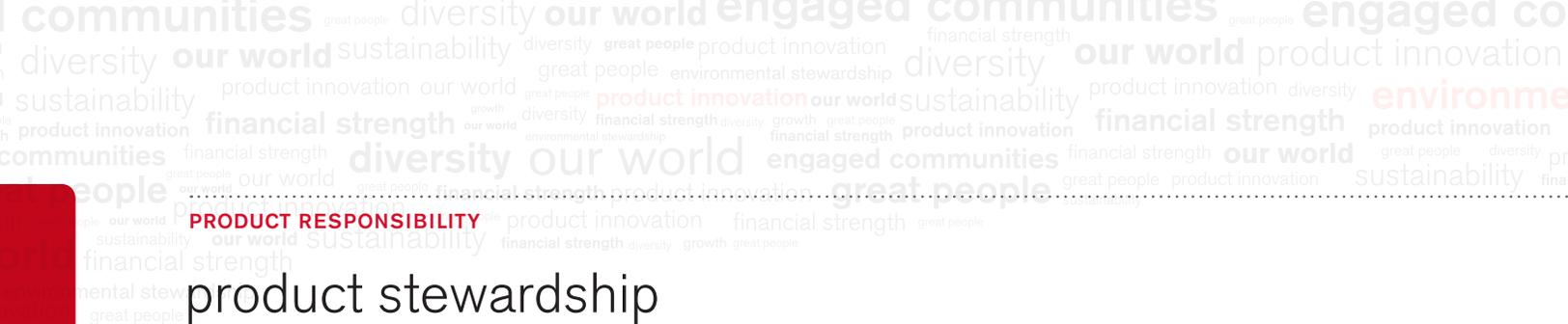
Product stewardship is an integral part of Owens Corning's sustainability program. All new and significantly modified existing products sold by Owens Corning undergo a comprehensive Product Stewardship Review to ensure they perform as claimed and that they are safe and environmentally sound throughout the manufacturing, usage and disposal stages of the product's entire life cycle. The Product Stewardship Reviews address all elements of Owens Corning's Environmental, Health, Safety and Product Stewardship Policy. Guidelines for product developers, engineers and scientists are also developed to guide product/process development in accordance with Owens Corning's standards. We have conducted more than 1,200 such reviews since 1997 and nearly 900 since 2006, when Product Stewardship Reviews were made a mandatory element of our Business Code of Conduct.

The product stewardship program includes several components to ensure a structured process and clear alignment to our corporate goals. Our Product Stewardship Leader is accountable for managing the process, keeping the Product Stewardship Review Board balanced with the needed expertise, and reporting directly to the Chief Sustainability Officer. On a weekly basis, our Review Board – consisting of global members with expertise in EHS, medical,

toxicology, sustainability, sourcing, reliability engineering, technical and analytics – meets to review projects for new and significantly modified existing products. This organization provides counsel, guidance and direction to ensure compliance with the Owens Corning Product Stewardship policy and Owens Corning standards.

Additionally, our Product Stewardship Advisory Council meets throughout the year to provide insights on key EHS and performance issues, review product stewardship guidelines, and discuss Product Stewardship Review Board activities. The Advisory Council members are also responsible for communicating Owens Corning's Product Stewardship principles throughout the Company. The Advisory Council is a group of senior business and functional leaders that links Product Stewardship to the Owens Corning enterprise.

As part of our Product Stewardship process, Owens Corning new product developers must complete a questionnaire that generates a sustainability map of the



## PRODUCT RESPONSIBILITY

# product stewardship

product throughout its life cycle. This Sustainability Mapping Tool is used to evaluate how the new product or process will impact the Company's sustainability goals and to drive decisions in the design phase that will advance our goal of achieving greater sustainability in our portfolio of products. Summary reports from these assessments identify trends and opportunities to further improve sustainability and are published on a quarterly basis.

The Sustainability Mapping Tool influences and measures the positive sustainability aspects of 100% of our R&D projects, new products and new processes that go through Stewardship Reviews. It also indicates the renewable energy sources we use, and our energy usage in automobiles, facilities and buildings.

In 2016, our efforts to meet these objectives throughout our manufacturing footprint resulted in benefits such as lower plant air emissions, lower material consumption, lower energy usage and higher process efficiencies, and these results contribute to our footprint reduction progress. We introduced new product designs that use less material and result in less energy usage for the end user. We have also identified the high-impact raw materials so we can work with suppliers to reduce their footprint, in turn having a positive impact on our product footprint.

Owens Corning has an extensive product stewardship staged process for all new and changed products. Testing is completed to ensure products and raw materials meet health and safety specifications.

### ***Testing of Raw Materials/Finished Products***

Raw materials are covered by a Purchasing Acceptance Standard (PAS) signed by the supplier. The PAS document specifies the requirements applicable to the raw material, including the physical and chemical properties and the properties that must appear on the "Certificate of Analysis" provided by the supplier with each delivery of the raw material. The raw material delivery is accepted or rejected based on the examination of the Certificate of Analysis data.

### ***Manufacturing Process***

Each product has a manufacturing specification that defines the manufacturing process settings and internal controls to assure that the finished product meets the expected properties.

### ***Product Composition***

Each product has a defined standard composition that specifies its formulation as well as the approved raw materials.



**PRODUCT RESPONSIBILITY**

# product stewardship

***Finished Products***

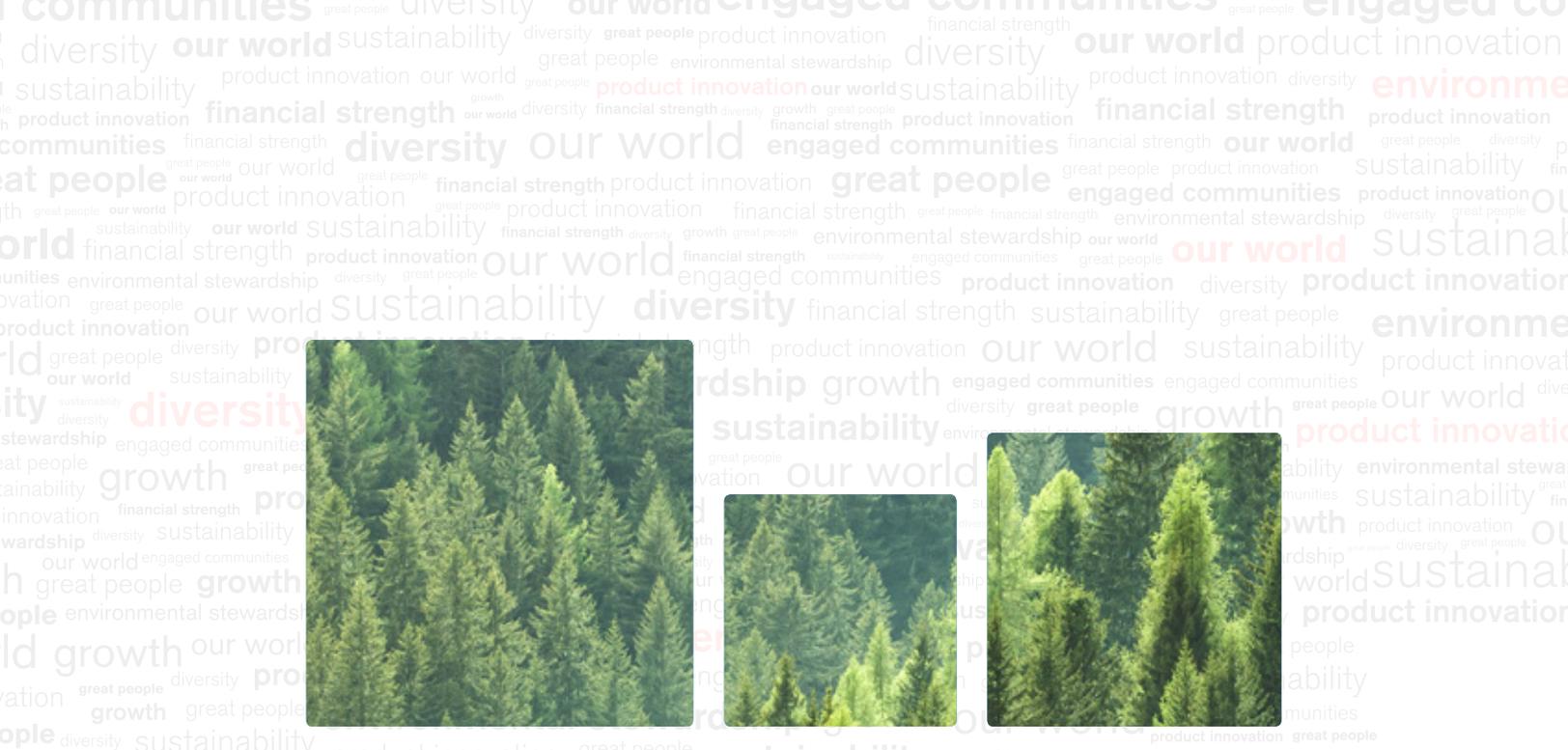
Finished products are covered by a Customer Acceptance Standard (CAS) that describes the specified properties of the finished products.

***Management of Change***

Intended changes related to raw materials and/or manufacturing process must be reviewed for approval before implementation.

***Traceability of Raw Materials***

The manufacturing and data management system allows us to establish the relationship among finished products manufacturing dates, manufacturing process data and raw materials.



# environmental responsibility

3

- CLIMATE CHANGE
- ENERGY
- EMISSIONS
- WATER
- WASTE
- PROTECTING BIODIVERSITY
- ENVIRONMENTAL CONTROL
- ACCOUNTABILITY FOR OPERATIONS SUSTAINABILITY



## ENVIRONMENTAL RESPONSIBILITY

# climate change

As sustainability is one of our company's values, our employees are accountable for finding ways to reduce our environmental impact, eliminate waste and share ideas for achieving our sustainability goals.

### STRATEGY AND APPROACH

Our [Climate Change Statement](#) is clearly in favor of reducing energy use, water use and greenhouse gas (GHG) emissions. Our policy work and engagement with trade groups are focused on facilitating the ease of consumers and industry professionals to employ energy efficiency and renewable energy practices in conjunction with Owens Corning, and/or using Owens Corning's expertise and products. In addition, "Expanding Our Impact through Sustainability" is a company value. Our values underpin our operations, and all decisions are made through the lens of these values. Our Government Affairs team coordinates all engagement with policymakers, and ensures that these activities are completely aligned with our climate policy. We regularly review language and activities with both external affairs and sustainability and conduct legal reviews of all external communications, including letters, testimony and activities with outside advocates or NGOs.

In line with our commitment to **United Nations Sustainable Development Goal #13, Climate Action**, we focus on accelerating energy efficiency improvements, renewable energy deployment and GHG emission reductions to reduce the impact of our operations and activities on global climate change. Our GHG reduction goal (see [Emissions](#)) is informed by science-based methodologies that are designed to reduce carbon emissions enough to limit global warming to less than 2°C, compared to pre-industrial temperatures.

### IMPACT OF CLIMATE CHANGE

Factoring potential impacts of climate change into our business strategy reflects prudent sustainability management. A good example is the inclusion of energy into our risk register. We have an active team including internal and external resources that evaluate both boutique onsite renewable programs and large offsite installations. In 2015, Owens Corning signed agreements to purchase a total of 250 megawatts of renewable electricity – 125 megawatts of wind energy from the Wake Wind Energy Center in Texas, owned by Invenergy, and another 125 megawatts from NextEra. These agreements will add the equivalent of enough renewable energy to power 65,000 U.S. homes per year to the electric power grid. Both wind farms came online in late 2016 and are now providing renewable energy into the grid. For purposes of GHG accounting, the impact will be seen in our next reporting cycle.

We also continue to look for opportunities to expand our renewable portfolio, with several reviews of onsite and offsite programs in 2016. To ensure we are evaluating each

ENVIRONMENTAL RESPONSIBILITY

# climate change

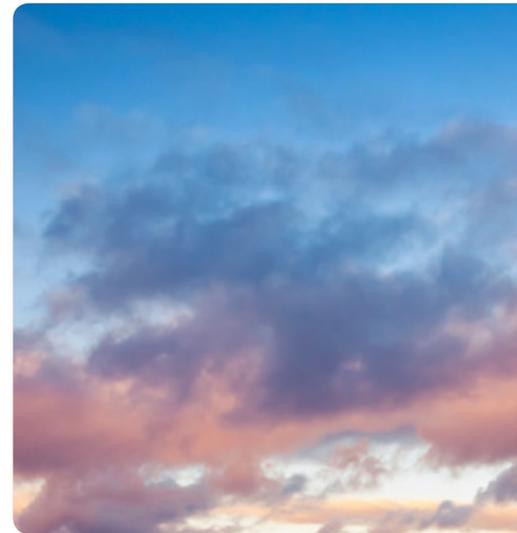
opportunity thoroughly, a request for proposal is received from potential energy providers and the information is vetted through a consortium of internal and external individuals who review the opportunity for impact, value and return on investment to determine if the next step should be taken. We evaluated several opportunities and expect to announce one or more new agreements in 2017.

The climate change influence on increasing frequency and severity of storms, as well as changing weather patterns over various regions of the world, has driven changes to our strategy that have improved our company's products. In recent years, we have made it a priority to develop roofing products with higher wind resistance and greater durability.

Increasingly, our business strategy is influenced by opportunities to partner with companies that drive forward-thinking programs on topics such as advanced building energy efficiency standards and building durability. One of our major strategies is to participate at the board level in the Residential Energy Services Network (RESNET), Building Performance Institute (BPI), National Association of Home Builders (NAHB), and Energy & Environmental Building Alliance (EEBA). We are members of the Business for Innovative Climate and Energy Policy (BICEP) and on the advisory board of the Sustainability Accounting Standards Board (SASB).

Regulatory change is another climate change driver to our business strategy, as evidenced by our support of regulation to eliminate GHG emissions. Other factors of climate change that influence our strategy include water shortages and the need to reduce energy use. We have also committed to perform Life Cycle Assessments (LCAs) to continue to reduce our footprint and develop our handprint.

Several aspects of our long-term strategy are also influenced by climate change. For example, we have moved from a mindset of one to three years of power supply to 15 to 20 years of access to renewable energy in a cost-effective manner. We also include offsite renewable programs in our energy analysis and portfolio, and impending water shortages in water-stressed areas are now part of our evaluation of suppliers and customers. In addition, our R&D portfolio is guided by our Sustainability Mapping Tool and our focus on ultimately becoming a net positive company. Innovation and sustainability are key drivers of our long-term strategy for Owens Corning's products to make the world a better place.



## ENVIRONMENTAL RESPONSIBILITY

# energy

As a glass manufacturing organization, we are very energy intensive and understand the impact this has on the environment. However, we are passionate about understanding the impact of our operations on the environment and implementing a holistic approach to energy management.

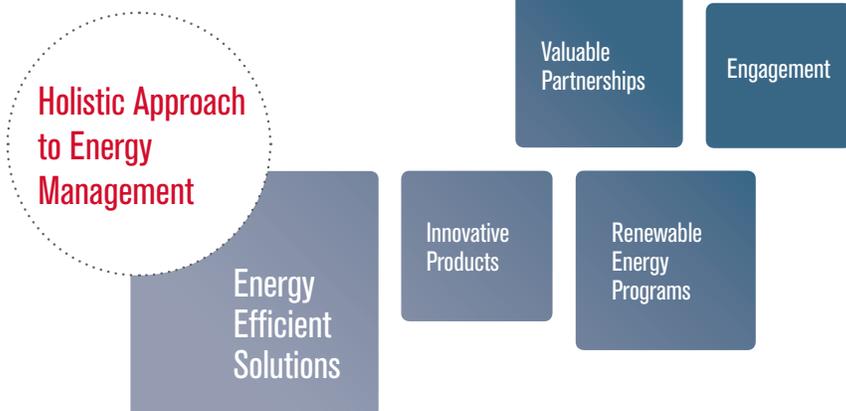
### STRATEGY AND APPROACH

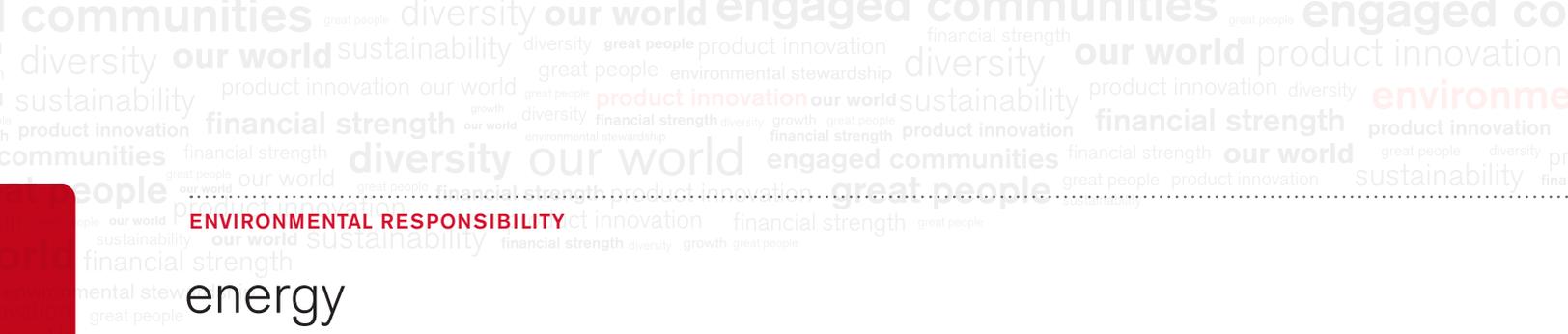
A key tenet of our strategy is to continue developing energy-saving products across all of our business (see [Product Sustainability](#) for more details). We also remain dedicated to implementing energy-use reduction programs throughout all of our operations around the world.

We periodically review and report our performance, goals and targets to ensure we have the necessary systems in place for tracking and monitoring our performance against our key energy-related indicators. For example, we issue a monthly Energy Intensity report for all plants with significant energy use, and are currently in the process of automating this effort to enable reporting of energy intensity across all of our plants globally. We also disclose our environmental performance on external platforms, including this report, and assess our position relative to other companies. The public disclosure enables all stakeholders to comment or provide feedback for further review and action.

All Owens Corning facilities have a designated energy leader who engages in energy management projects and activities, identifies opportunities for further improvement, and leads the implementation of new projects. In addition, each business has a full-time energy program manager or engineer to conduct assessments, facilitate Kaizen activities, develop energy projects and provide technical support. Most plants with medium and high energy usage have an energy team that meets monthly.

We manage accountability and achievements related to our enterprise energy usage in several ways. For example, management's incentive compensation is tied to our sustainability goals. In addition, the Company has internal awards for plant energy teams.





**ENVIRONMENTAL RESPONSIBILITY**

# energy

## Reducing Energy Intensity and Footprint

In 2010, Owens Corning set a goal to reduce primary energy intensity 20% by 2020. To achieve this goal, we have internal targets to reduce consumed (metered) energy intensity year-over-year. Through 2016, we have achieved a 17% consumed energy intensity reduction and an 18% primary power intensity reduction. While we're proud of our progress, we continue to push ourselves to ensure we meet our stated goals.

In addition, as a part of the U.S. Department of Energy's Better Plants program, we have committed to a 25% reduction in our primary energy footprint in the United States from the 2010 base year to 2020.



# ACHIEVE 20%

reduction in primary energy intensity company-wide by 2020, from a 2010 baseline

## ENERGY CONSERVATION AND SAVINGS

Since 2006, Owens Corning has implemented more than 1,000 energy-use reduction projects in its facilities across the globe, which together have reduced our MWh usage by more than 1,100,000 MWh. These projects include lighting retrofits, compressed air optimization, cooling tower upgrades, pump optimizations, solar hot water tanks, fuel switching, process optimizations and biomass conversions. In 2016, we implemented 48 programs, generating energy savings of more than 30,000 MWh per year and reducing greenhouse emissions by over 30,165 MT. As part of our continuing efforts, Owens Corning will be assessing the viability of implementing these latest initiatives in other facilities. See the table on the next page for our energy conservation program examples.

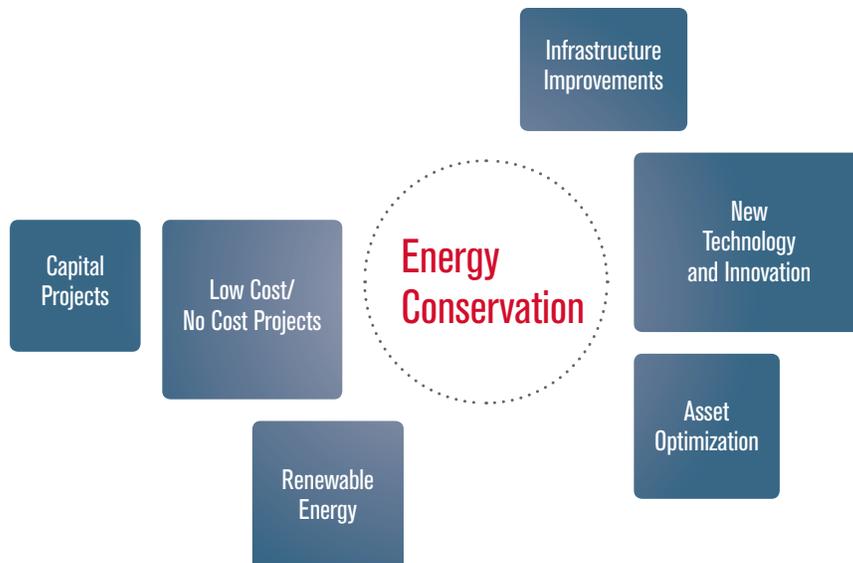
In 2016, Owens Corning received an EPA ENERGY STAR® "Partner of the Year" award for its energy management during 2015. Owens Corning is one of 16,000 partners that drive the program's success and was recognized as one of 149 companies and organizations in the U.S. who lead their industries in energy efficiency. Accomplishments in 2015 included energy intensity performance, the number of energy projects implemented, expanded use of clean power with three renewable energy projects, sustained capital funding for energy projects, a strong team of energy leaders and plants and several Certified Energy Managers, as well as Owens Corning's system for sharing best practices across the Company and with ENERGY STAR® industrial partners.



# energy

## 2016 ENERGY CONSERVATION PROGRAM EXAMPLES

Description of activity	Estimated annual CO <sub>2</sub> e savings (metric tonnes CO <sub>2</sub> e)	Annual monetary savings (USD)	Investment required (USD)	Payback period	Estimated lifetime of the initiative
Six individual lighting projects focused on improving energy efficiency of lighting in various manufacturing plants across U.S., Brazil and China	3,034	280,267	855,326	1-3 years	16-20 years
Three HVAC projects focused on improving the energy efficiency and reliability of HVAC systems in plants in U.S., Brazil and Europe	686	84,292	122,973	1-3 years	11-15 years
Seven variable frequency drive (VFD) projects for various fans, pumps and miscellaneous motors within manufacturing operations in U.S. and Canada	3,743	253,608	389,938	< 1 year	Ongoing
10 energy efficiency projects of various types across U.S., China and Europe, including electrical controllers, motor upgrades, compressor upgrades and steam system improvements	2,950	266,335	87,120	< 1 year	Ongoing
19 projects across U.S., Canada, Brazil, Korea, China, Europe and Russia, impacting our processes, resulting in energy efficiency and operational improvements, including controls, reuse of process water, right-sizing systems and system automation	19,149	1,505,213	6,477,097	1-3 years	16-20 years



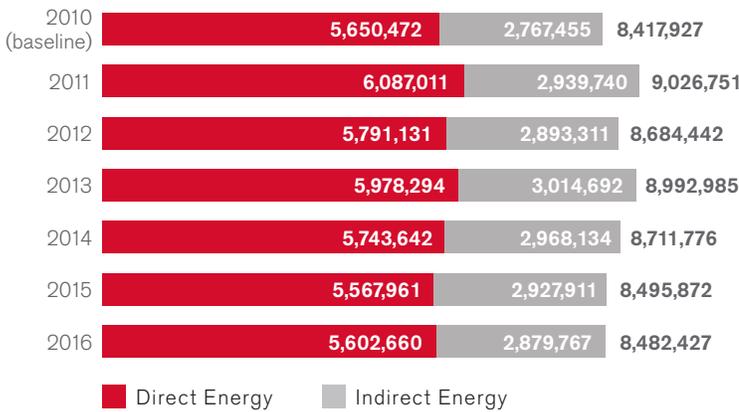
**ENVIRONMENTAL RESPONSIBILITY**

**energy**

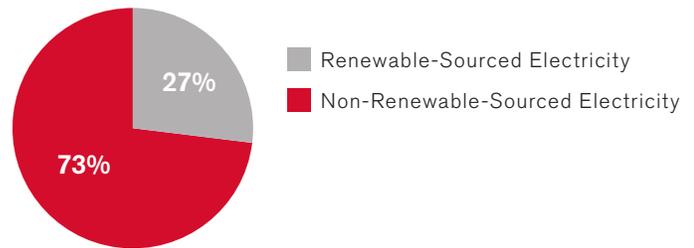
**ENERGY PERFORMANCE ACROSS THE ORGANIZATION**

To ensure that we stay on target, we track both direct and indirect energy sources in accordance with the "Save Energy Now – Energy Baseline Guidelines." This ensures that the total energy needed to generate, transmit and distribute electricity from the power generation source to the end user (also referred to as primary energy) is factored into the Company's energy consumption metrics.

**Energy Consumption within Owens Corning  
(in Megawatt hours)**



**2016 Indirect Energy: Electricity**



**2016 Normalized Electric Power**

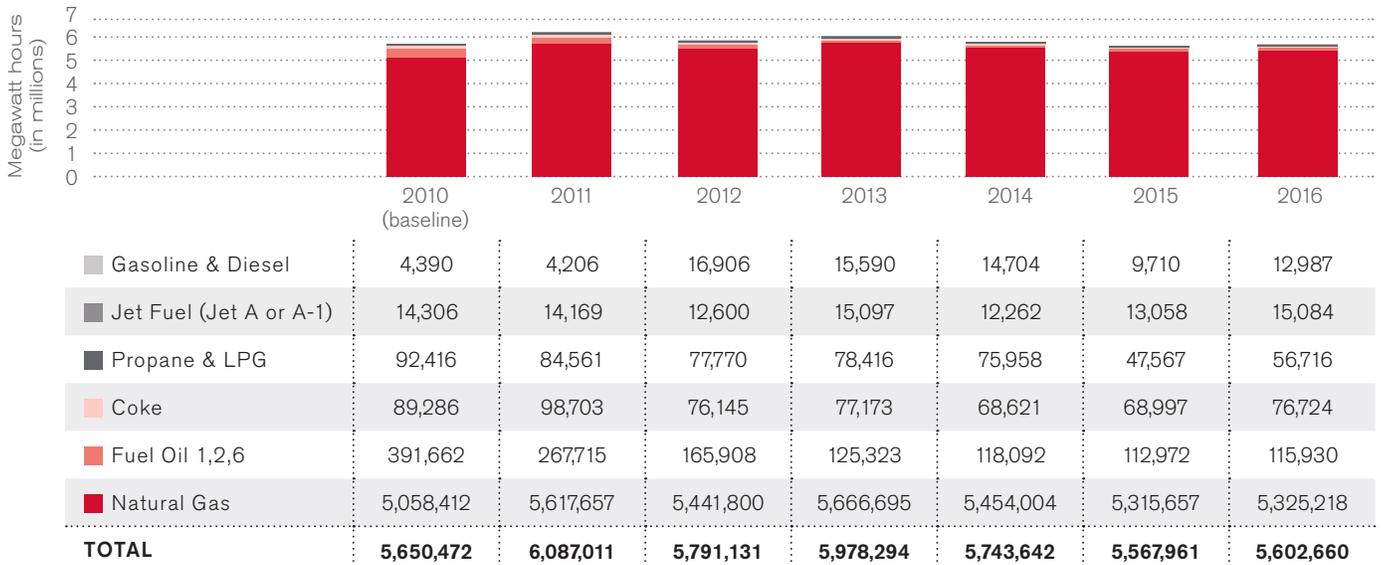
Year	MwH	Normalized Amount
Electric Power	2,879,767	0.42527

*Intensity is normalized based on MT of product produced*

**Our Direct Energy Consumption**

Owens Corning increased its overall consumption of direct energy by 1% from 2015 to 2016 due to increased production across our Company.

**Direct Energy by Fuel Type**



**ENVIRONMENTAL RESPONSIBILITY**

**energy**

**Commitment to Renewable Energy**

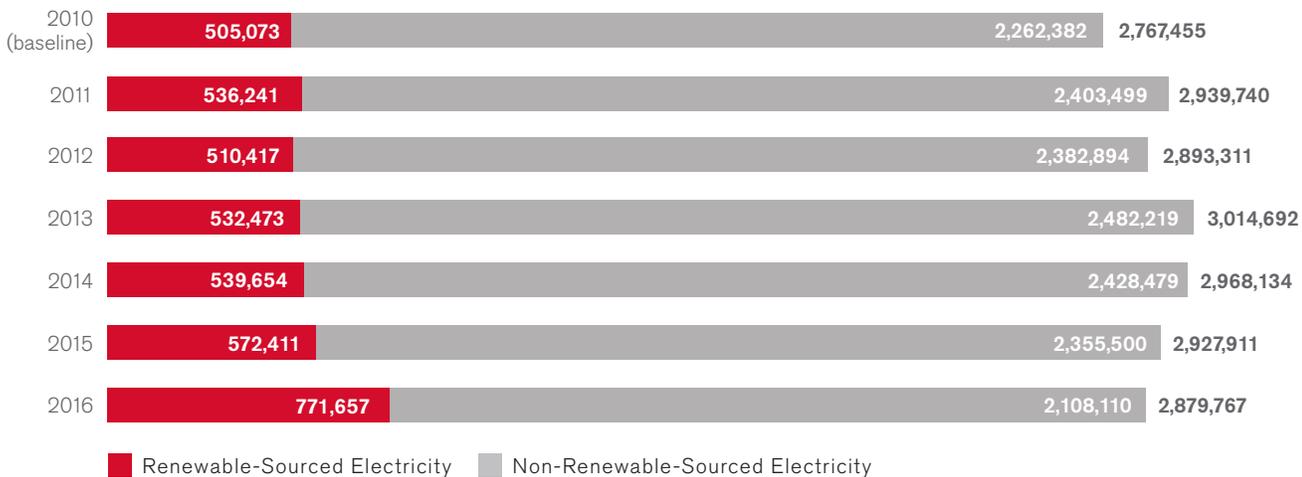
Owens Corning is committed to evaluating renewable energy opportunities globally and investing in on-site renewable programs while collaborating with external partners. Through our sourcing organization, Owens Corning evaluates renewable energy available through our utility providers.

In 2013, Owens Corning announced the development of a 2.7-megawatt solar generation project to supply renewable electricity to our Delmar, New York, site. The project was completed in 2013, and, in 2016, this installation provided approximately 8% of the electricity required for that facility.

In 2015, Owens Corning installed a solar array at our Toledo World Headquarters that once fully stabilized and functional will satisfy approximately 25% of the building's energy needs. In addition, the project is a highly visible commitment to renewable energy.

In 2016, approximately 20% of our electricity was sourced through renewable sources, such as wind, hydro, solar and geothermal across our portfolio globally. For the United States, 11% of our electricity is sourced from renewable sources such as biomass (1%), hydro (4%) and wind (5%), while solar and geothermal make up less than 1%. This estimate is based on the same methodology used by the U.S. Department of Energy's Better Plants program.

Electricity Consumption by Source (in Megawatt hours)



# energy

Owens Corning Energy Portfolio, by region (in Megawatt hours)

		2010 (baseline)	2011	2012	2013	2014	2015	2016
<b>Direct Energy</b>								
Non-renewable	Asia Pacific	1,058,223	1,166,740	1,156,718	1,067,727	928,530	845,030	799,044
	Canada	327,676	330,722	294,753	293,216	303,878	301,422	260,213
	Europe	1,073,330	1,092,618	884,789	920,618	871,159	889,193	914,986
	Latin America	379,698	402,422	459,263	564,233	517,270	527,370	579,300
	United States	2,811,546	3,094,509	2,995,607	3,132,500	3,122,806	3,004,945	3,049,117
Renewable		0	0	0	0	0	0	0
<b>Indirect Energy: Electricity</b>								
Non-renewable	Asia Pacific	334,278	391,325	398,788	410,086	375,619	370,968	314,271
	Canada	97,660	101,617	90,269	93,397	94,279	97,667	46,988
	Europe	206,379	218,326	168,899	203,149	191,575	195,483	98,940
	Latin America	95,353	112,357	125,748	154,561	157,635	154,990	172,111
	United States	1,528,712	1,579,872	1,599,191	1,621,026	1,609,370	1,536,392	1,475,800
Renewable	Asia Pacific	46,043	56,221	58,223	60,281	51,893	50,388	99,341
	Canada	159,339	165,797	147,281	152,385	153,824	159,352	176,764
	Europe	113,634	124,071	110,637	113,003	105,457	104,617	211,248
	Latin America	81,276	88,669	87,779	89,327	75,467	92,474	94,953
	United States	104,781	101,484	106,498	117,477	153,013	165,581	189,351
<b>Overall Energy Usage</b>								
Non-renewable		7,912,854	8,490,509	8,174,025	8,460,513	8,172,122	7,923,461	7,710,769
Renewable		505,073	536,241	510,417	532,473	539,654	572,411	771,657
Total Energy Usage		8,417,927	9,026,751	8,684,442	8,992,985	8,711,776	8,495,872	8,482,427

# energy

## ENVIRONMENTAL RESPONSIBILITY

### ENERGY INTENSITY AND REDUCTION

We continue to expand efforts to reduce our energy intensity across our operations. In 2016, our weighted average intensity was 2.91 MWh, a reduction of 1% from 2015. We attribute this reduction to the conservation measures we have taken to significantly reduce energy consumption and improve plant efficiency.

#### Primary Energy Intensity

	2010 (baseline)	2011	2012	2013	2014	2015	2016
Weighted intensity (MWh/MT of product produced)	5.34	5.39	5.18	4.99	4.85	4.62	4.38
Weighted intensity percentage	100	101	97	93	91	86	82

*Intensity is normalized based on MT of product produced*

#### Consumed Energy Intensity

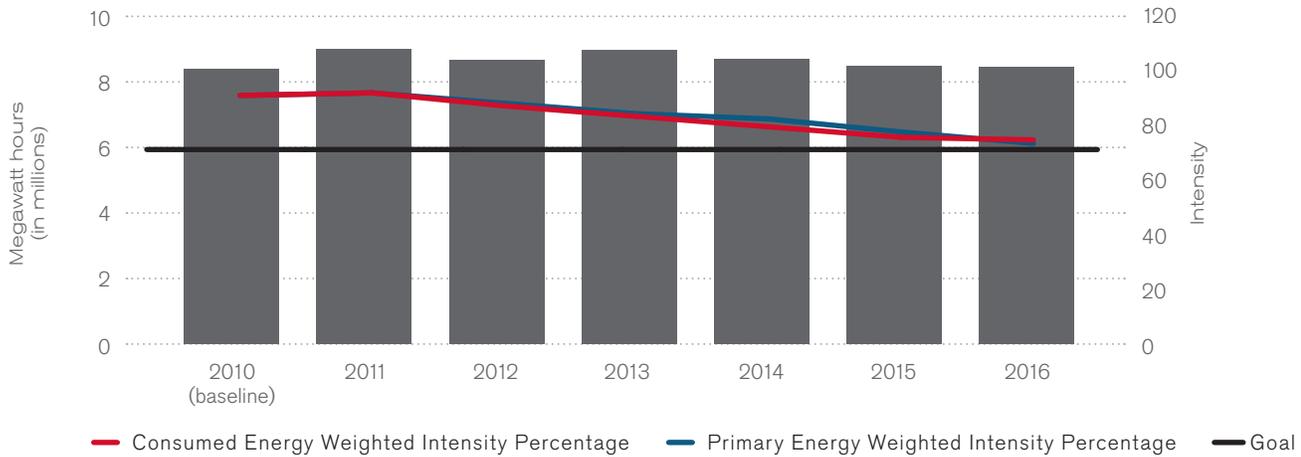
	2010 (baseline)	2011	2012	2013	2014	2015	2016
Weighted intensity (MWh/MT of product produced)	3.50	3.55	3.34	3.21	3.09	2.94	2.91
Weighted intensity percentage	100	101	96	92	88	84	83

*Intensity is normalized based on MT of product produced*

**ENVIRONMENTAL RESPONSIBILITY**

**energy**

Energy with Intensity



**ENERGY CONSUMPTION ACROSS THE VALUE CHAIN**

Energy consumption outside of the organization has been determined using an EIO-LCA based method. The calculation was performed using the EIO-LCA online tool developed by Carnegie Mellon University. The respective NAICS manufacturing industry sectors associated with Owens Corning's three major business operations were identified, and Net Sales figures found in the 2016 Owens Corning [Annual Report on Form 10-K](#) were used as indicators of, and inputs for, economic activity in each of the three respective sectors. The reported value is reflective of only Scope 3 upstream use for each of the three businesses.

2016 Total Energy Consumed by Business (Terajoules)

	Total (Scope 3)	Composites	Insulation	Roofing
Coal	16,120	5,662	6,068	4,390
Natural Gas	17,520	6,142	4,517	6,861
Petrol	11,678	2,621	3,056	6,001
Bio/Waste	3,562	974	1,116	1,471
NonFossElect	5,291	2,178	1,357	1,756
<b>TOTAL</b>	<b>54,170</b>	<b>17,577</b>	<b>16,114</b>	<b>20,480</b>

## ENVIRONMENTAL RESPONSIBILITY

# energy

### ENERGY-SAVING PRODUCTS

Our commitment to sustainability starts with our passion for developing energy-saving products, such as insulation and durable products that significantly reduce energy and associated emissions.

Our wide range of energy-saving products includes:

- **Fiberglass Insulation:** Fiberglass insulation, first commercialized by Owens Corning in the 1930s, is the most widely used type of insulation in the United States, Canada and Mexico today. A typical pound of insulation saves 12 times as much energy in its first year in place as the energy used to produce it. That means the energy consumed during manufacturing is saved during the first four to five weeks of product use. The insulation continues to save that amount of energy every month throughout the life of the home or building in which it is installed.  
  
Other fiberglass insulation products provide energy-saving thermal protection for HVAC, mechanical and commercial applications.
- **Extruded Polystyrene (XPS) Insulation:** Our FOAMULAR® extruded polystyrene (XPS) insulation, a rigid board, is used on exterior and interior walls, foundations, roofs and infrastructure for thermal insulation even in wet conditions. It is reusable, with a proven history of removal, salvage and reuse.
- **Mineral Wool Insulation:** Thermafiber® insulation was acquired by Owens Corning in 2013 to complement our portfolio of energy-saving products. Thermafiber® is used in commercial and residential buildings and can also deliver fire containment with its high temperature durability.
- **Cool Roof Shingles:** Our wide color range of “cool roof” shingles uses a highly reflective granule technology that bounces back the sun's rays, helping keep roofs cooler and reduce air conditioning energy levels. They meet EPA ENERGY STAR® requirements for solar reflectance of .25, the fraction of solar energy reflected by the roof.
- **Composites:** Fiberglass-reinforced composites can be light, insulating and corrosion-, impact- and heat-resistant, and are used to replace steel, aluminum, wood and other materials. Fiberglass as a reinforcement provides for lighter weight while delivering comparable or better strength than other materials such as steel. Lighter weight means more fuel efficiency in all forms of transportation. With increasingly higher strength technology, composites have also provided more efficiency and greater economy for wind energy turbines using longer, lighter and more productive blades at lower wind speeds.

For some applications, glass fiber composites also have been shown to have less impact on the environment through comparison of the life cycle assessment of specific parts made from steel and aluminum. The life cycle assessment takes into consideration the raw materials extraction, manufacturing, installation, maintenance and end of life of composite parts vs. other materials.

A typical pound of insulation saves

# 12 TIMES

as much energy in its first year in place as the energy used to produce it

## ENVIRONMENTAL RESPONSIBILITY

# emissions

Owens Corning is committed to safeguarding, sustaining and improving the environment for the benefit of current and future generations. We believe that key conclusions regarding the impact of human activity on global climate change have earned widespread support, requiring the reduction of greenhouse gas emissions (GHG) around the world.

### STRATEGY AND APPROACH

Owens Corning is well-positioned to help our business, our customers and the world increase energy efficiency and reduce GHG emissions. We have the commitment, technical skills and processes in place in our operations to reduce our own energy use and emissions by being more energy efficient and increasing our use of renewable energy. In addition, we offer the innovative solutions that enable energy efficiency in the construction, transportation and renewable energy markets.

#### Targeting 50% GHG Emissions Reduction by 2020

At Owens Corning, we are committed to reducing our footprint, and as such, we have established 2020 GHG emissions goals using 2010 data as the baseline. We follow the World Resource Institute (WRI) GHG protocol to account for Scope 1, 2 and 3 emissions.

In line with our global stakeholder expectations, we are committed to continuous improvement by reducing our primary energy usage, GHGs, fine particulate matter and toxic air emissions, as well as minimize waste-to-landfill and water discharge.

After achieving a 34% reduction in GHG emissions in 2014 (compared with the 2010 baseline), Owens Corning raised its 2020 reduction goal in 2015 from 20% to 50%. In 2016, we achieved a 35% reduction from our base year. Through energy efficiency efforts and an early change in the blowing agent we use, we were able to show significant reductions from 2010 to

2016. From 2015 to 2016, we did not show a year-over-year improvement, although we fully expect to continue to reduce our emissions toward our 2020 goal over the next three years.

#### Relative Targets for Scope 1 and Scope 2 Emissions

Baseline year (2010)	2010
Target year	2020
% target reduction in GHG intensity by 2020	50%
% reduction in 2016 vs. 2010	35%
% target complete	70%

# emissions

## ENVIRONMENTAL RESPONSIBILITY

### DEVELOPMENT OF CLEANER AND GREENER PROCESSES FOR PRODUCT MANUFACTURING

Our focus has always been on achieving intensity goals rather than absolute goals, as absolute measurements tend to vary widely based on business volumes and market conditions. We have achieved our intensity goals by developing lower GHG foam blowing agents and decreasing our fossil fuels and natural gas usage.

In our endeavor to address climate change issues, we are continuing to develop greener solutions while maximizing our renewable energy usage. Owens Corning has annual internal targets to ensure progress toward our 2020 goals. Our roadmap for emission reductions is based on the following short- and long-term strategies:

#### Short-term Strategies

- Conversion of the blowing agent used in manufacturing our foam products to reduce GHG emissions;
- Creation of residential builders' guide detailing the process to build net zero homes in all climate zones and engagement with builders and architects to provide building science solutions for beyond-code energy efficiency; and
- Development of our Sustainability Mapping Tool, which was designed to evaluate how a new product or process will impact the Company's sustainability goals and to drive decisions in the design phase that will achieve a portfolio of more sustainable products.

#### Long-term Strategies

- Continue to evaluate renewable energy opportunities on a global basis including longer-term agreements to support the addition of renewable energy to the grid. Our R&D portfolio is guided by our Sustainability Mapping Tool and our focus to ultimately be a net positive company. Innovation and sustainability are key drivers of our long-term strategy.

The Owens Corning sustainability leadership team works in collaboration with our internal and external stakeholders to enhance engagement opportunities, create large-scale footprint reduction programs, and enable supplier initiatives to review priorities and discuss future plans. Through these reviews, we ensure the development of a sustainable business that benefits all of our stakeholders.

Owens Corning tracks environmental sustainability data at a plant level by utilizing Schneider Electric Resource Advisor. The data are normalized on a unit of production basis to evaluate

### Wind Energy

## COMES ONLINE

In 2015, Owens Corning signed a power purchase agreement to purchase 125 megawatts of wind energy in Texas, and an additional agreement in Oklahoma for another 125 megawatts – totaling a 250-megawatt power purchase agreement for renewable energy. We are pleased to share that in November 2016, this investment came online. As a result, these installations will increase the use of renewable energy and GHG emissions starting in 2017.

## ENVIRONMENTAL RESPONSIBILITY

# emissions

variations and potential areas of risk. If risks are identified, mitigation plans are developed. The plant-level environmental data are then aggregated at a business unit and corporate level. Every plant, business unit and corporate organization are provided footprint files for comparisons and the ability to track against their goals.

We measure the performance against our environmental sustainability goals on a periodic basis, depending on risk and availability of data. For example, energy is measured on a monthly basis while toxic air emissions are measured less frequently.

### EMISSIONS PERFORMANCE ACROSS THE ORGANIZATION

In conjunction with our 2016 reporting process, Owens Corning made a decision to conduct a detailed review of our air emissions at our facilities globally. This analysis required a detailed review of source-level data in our production systems, internal calculations and emission factors. Consequently, we were required to make adjustments to prior reporting years for GHG emissions related to our foam production process and toxic air emissions directly related to one specific insulation facility. These changes were only applied when we could quantitatively ascertain the information we were receiving was valid and with merit. Stating that, the sum of the changes implemented negatively impacted our progress against the corresponding 2020 goals.

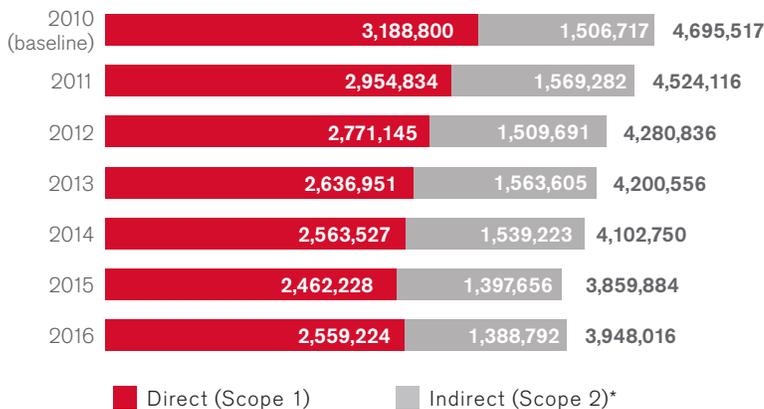
Total Direct and Indirect Greenhouse Gas Emissions (metric tons)

	2010 (baseline)	2011	2012	2013	2014	2015	2016
Direct (Scope 1)	3,188,800	2,954,834	2,771,145	2,636,951	2,563,527	2,462,228	2,559,224
Indirect (Scope 2)*	1,506,717	1,569,282	1,509,691	1,563,605	1,539,223	1,397,656	1,388,792
<b>TOTAL</b>	<b>4,695,517</b>	<b>4,524,116</b>	<b>4,280,836</b>	<b>4,200,556</b>	<b>4,102,750</b>	<b>3,859,884</b>	<b>3,948,016</b>

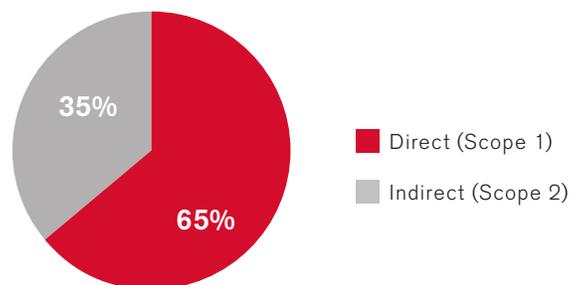
\*Market based

# emissions

Owens Corning's Emissions (metric tons)



2016 Emissions Breakdown

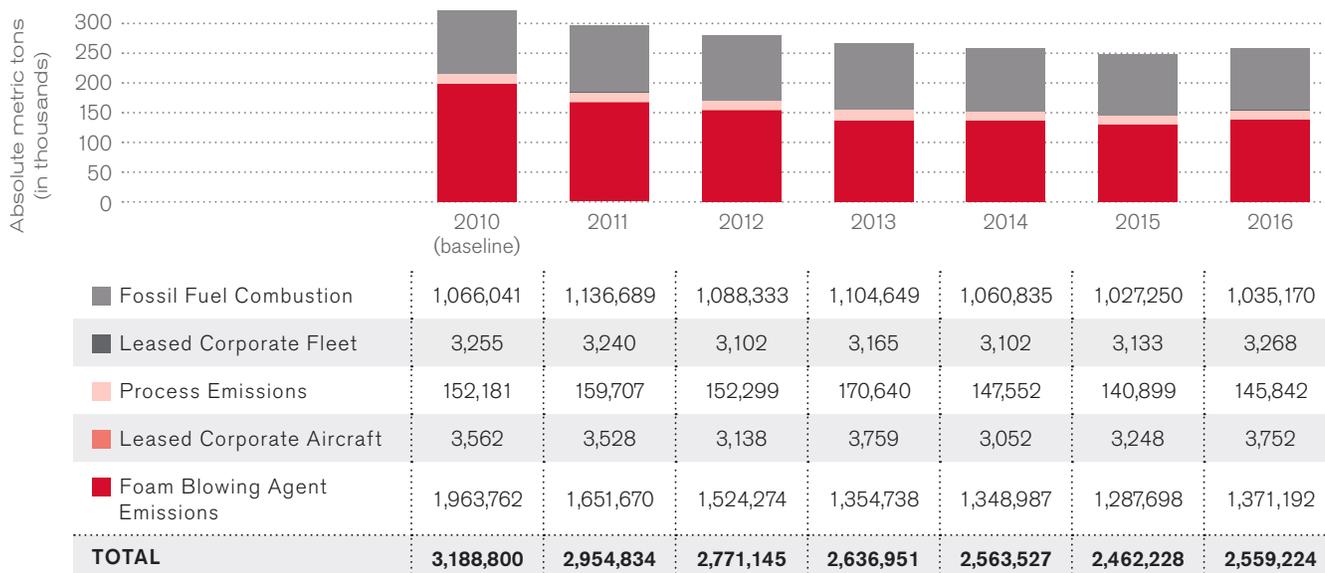


\*Market based

## SCOPE 1

The majority of our Scope 1 emissions are attributable to the blowing agent used in our foam production process as well as fossil fuel combustion across the Company. It should also be noted that changes in production output could cause increases/decreases in our emissions, given the raw materials and energy usage shifts.

Scope 1 Emissions Activity Breakdown



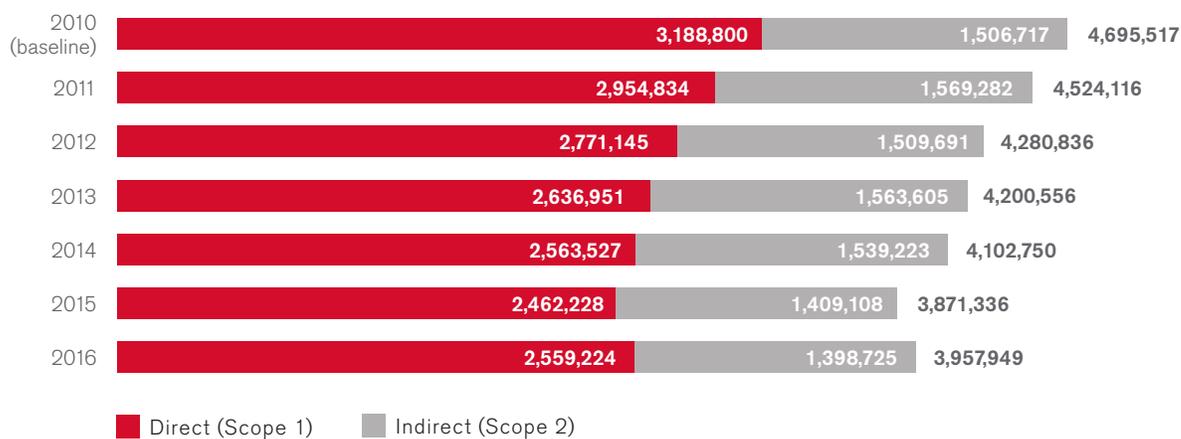
# emissions

## SCOPE 2 EMISSIONS

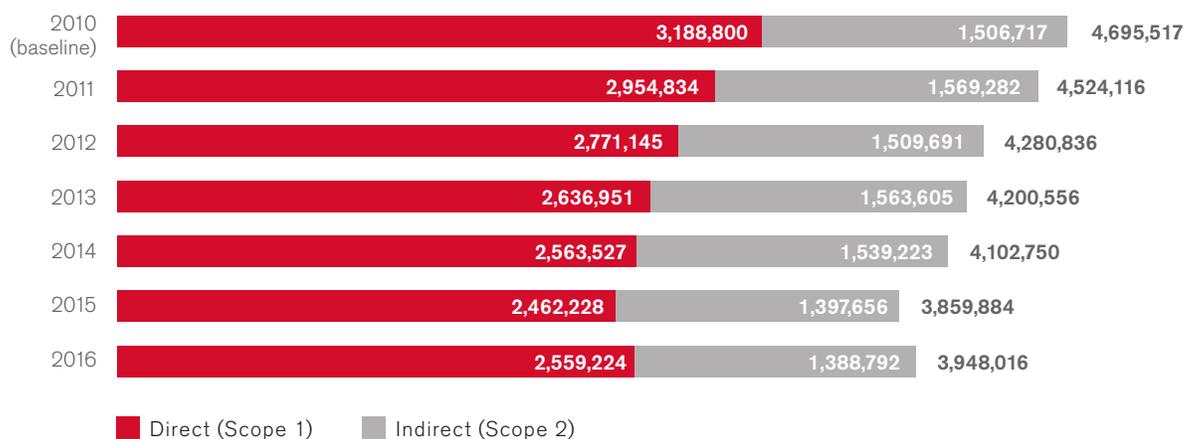
Grid electricity, sourced from utility providers on a monthly basis, is the major source of our Scope 2 emissions. We use monthly invoices to capture end-to-end consumption at an enterprise level. In 2016, we used the latest eGRID factors to measure emissions from electricity for U.S. locations and the latest IPCC/IEA factors for international locations.

As required, we have provided our emissions based on the latest approach listed in WRI and WBCSD's "GHG Protocol Corporate Accounting and Reporting Standard" for segregation of market-based and location-based emissions.

### Direct and Indirect Emissions (metric tons) - Scope 2 Location Method



### Direct and Indirect Emissions (metric tons) – Scope 2 Market Method



ENVIRONMENTAL RESPONSIBILITY

# emissions

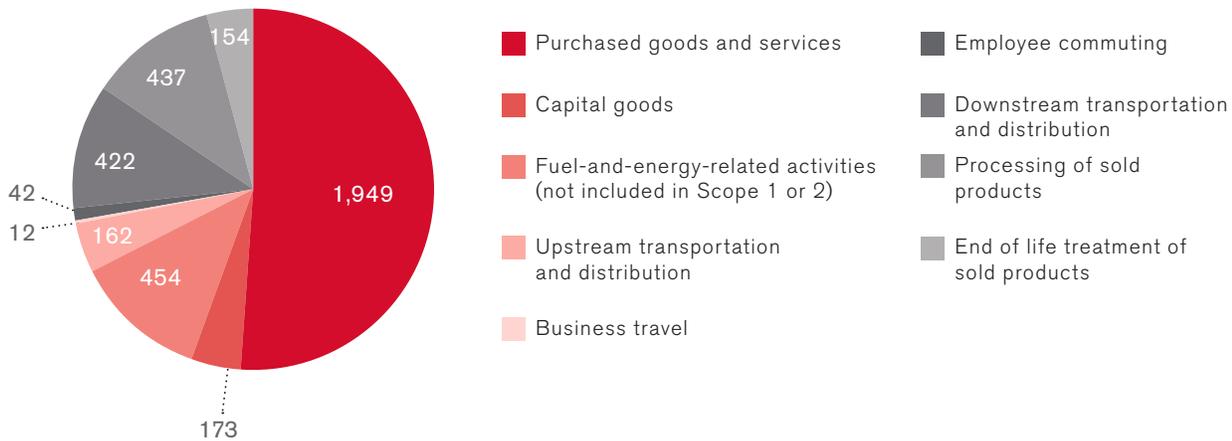
## SCOPE 3 EMISSIONS

Summarized in the pie chart below are Owens Corning's estimated Scope 3 emissions for 2016 by category. Owens Corning accounts for both upstream and downstream emissions from our value chain.

In 2016, we updated our calculation methodology. Previously, the calculation methodology provided a comprehensive, high-level overview of the GHG emissions associated with purchased goods and services. It combined aggregated, static industry data with revenue data. As a result, it was unable to provide the transparency needed to set climate change goals nor sufficient insight to measure our progress against climate change goals. The revised calculation methodology of our Scope 3 GHG emissions for purchased goods and services is based on our third party-verified product Life Cycle Assessments (LCAs), in addition to annual production data. Using this methodology, we can better set meaningful and actionable goals and have greater clarity to develop a strategy to meet those goals.

For more detailed information on our calculation methodologies for each Scope 3 category, please see question CC14.1 in our CDP Climate Change 2017 Report to be published in the third quarter on the Owens Corning sustainability website.

2016 Scope 3 GHG Emissions (in thousands of metric tons of CO<sub>2</sub>e)



## ENVIRONMENTAL RESPONSIBILITY

# emissions

### Emissions Across the Value Chain

#### Suppliers

Owens Corning considers GHG emissions from the Company's supply chain. As part of our annual supplier survey, we qualitatively review supplier actions around reducing emissions. In areas Owens Corning feels it can influence behavior, we have quantitatively analyzed our suppliers' emissions. As an example, we are using these data to effectively plan our logistics sourcing practices. Emissions from freight carriers are taken under consideration with an initiative called the Carrier Alternative Fuel Program. Owens Corning promotes the use of cleaner-burning natural gas as an alternative to diesel.

Our goal is to convert 12% of transportation miles to natural gas or use alternative fuel savings methods by the year 2020 through various partnerships with our strategic supplier base. Of our total miles transported in 2016, 11% were moved using natural gas, a 1% increase over 2015. We increased miles moved via alternative means (intermodal, boxcar) to 21% in 2016, up from 19% in 2015. In addition, Owens Corning has a portfolio of our product LCAs to assist in identifying opportunities for working with raw material suppliers in reducing GHG emissions.



## CONVERT 12%

of transportation miles to natural gas or use alternative fuel savings methods by the year 2020

#### Customers

We monitor qualitatively and quantitatively the GHG emissions from buildings, as one of our main customer industries, in relation to their energy efficiency. Buildings contribute about 40% of GHG emissions in the world today, so they are an essential target for reducing emissions. Our commitment to sustainability starts with energy-saving products such as insulation and air-sealing products. We estimate that our Insulation products produced in North America in 2016 reduced GHG emissions for home owners by approximately 8.8 million metric tons a year and 530 million metric tons over a 60-year building life. A typical pound of insulation saves 12 times as much energy in its first year of use as the energy used to produce it. That means the energy consumed during manufacturing is saved during the first four to five weeks of product use.

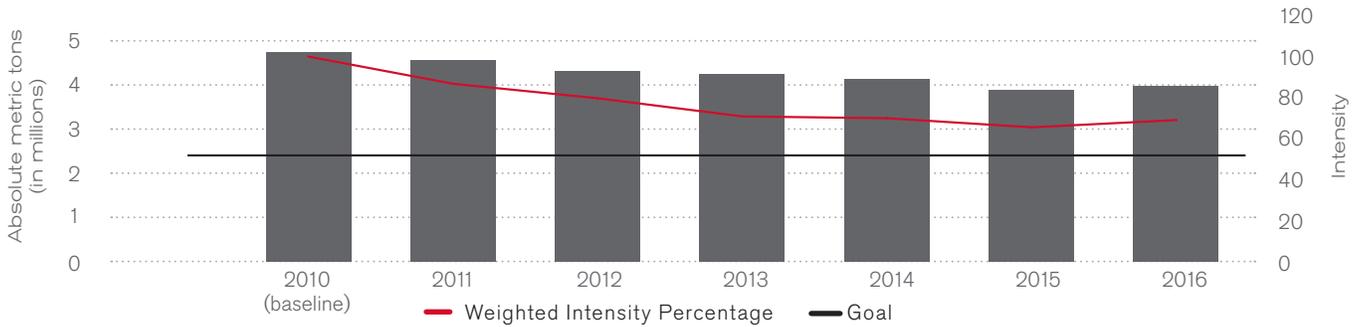
Our glass fiber composites contribute to light weighting of vehicles for better fuel efficiency, better efficiency of wind turbines and lower embodied energy than competing materials over the life of the part. We collaborate with customers to conduct LCAs for their products as well.



**ENVIRONMENTAL RESPONSIBILITY**

# emissions

## Greenhouse Gases



Absolute metric tons	4,707,812	4,535,551	4,291,619	4,217,734	4,112,209	3,870,742	3,959,864
Weighted intensity Percentage	100	85	77	67	66	61	65
Weighted intensity (MT/MT of product produced)	2.61	2.21	2.00	1.75	1.73	1.59	1.70

### EMISSIONS REDUCTIONS

- We achieved 20% reduction in Scope 1 emissions from 2010 to 2016, although year-over-year we are showing a 4% increase over 2015 due to an increase in our emissions related to our Foam production.
- We achieved an 8% absolute reduction in market-based Scope 2 emissions from 2010 to 2016 and a 1% absolute reduction since 2015.

We have continued our global strategy to reduce emissions of GHG across our operations, and finding that we had nearly met our goal in 2014, reset the GHG intensity goal to a 50% reduction from 2010 to 2020. As a company, we focus on reducing emissions from our raw materials and processing, increasing renewable energy sources, implementing energy reduction programs, while also identifying low-cost/no-cost solutions to drive reductions. We continue to evaluate capital improvement opportunities within our production processes. Owens Corning has a long-term strategy to manage its CO<sub>2</sub> allowances focused on compliance with regulations and driving cost reductions, while taking advantage of market opportunities in areas where trading schemes are in existence.

Implementation of energy efficiency initiatives across our enterprise, evaluation of combined heat and power, heat recovery, and growth of renewables to replace grid electricity are all key programs for us as we make progress against our 2020 goal. As Owens Corning is committed to making significant changes in our operations and driving change in the electricity grid to achieve our goals, we have elected to not purchase any carbon offsets to reduce our emissions since the inception of our sustainability reporting in 2006.

## ENVIRONMENTAL RESPONSIBILITY

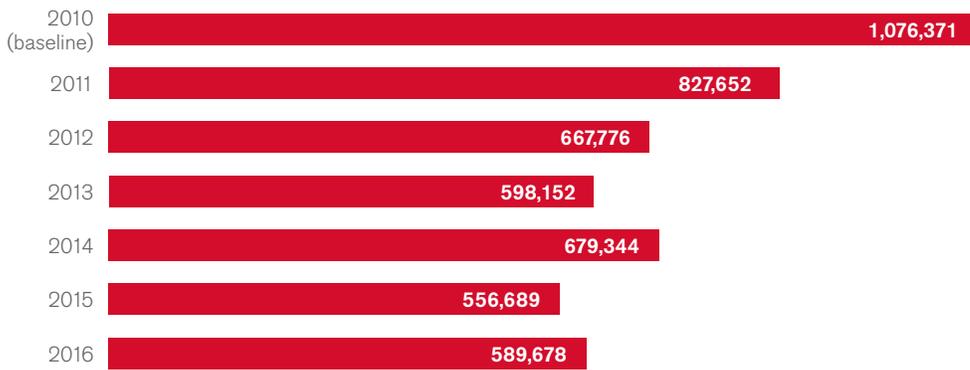
# emissions

Further details on renewable energy and other emission reduction initiatives including green buildings, energy-efficient products have been mentioned in the [Energy section](#). For detailed examples of our 2016 emission reduction projects, please see our response to question CC3.3b in Owens Corning's CDP Climate Change 2017 Report to be published in the third quarter on our sustainability website.

### OZONE-DEPLETING SUBSTANCES

In 2016, our absolute ozone-depleting emissions were 55% lower than the 2010 baseline but 6% higher than in 2015. The year-over-year increase occurred due to increased production in some of our foam facilities.

Ozone-Depleting Emissions (metric tons)



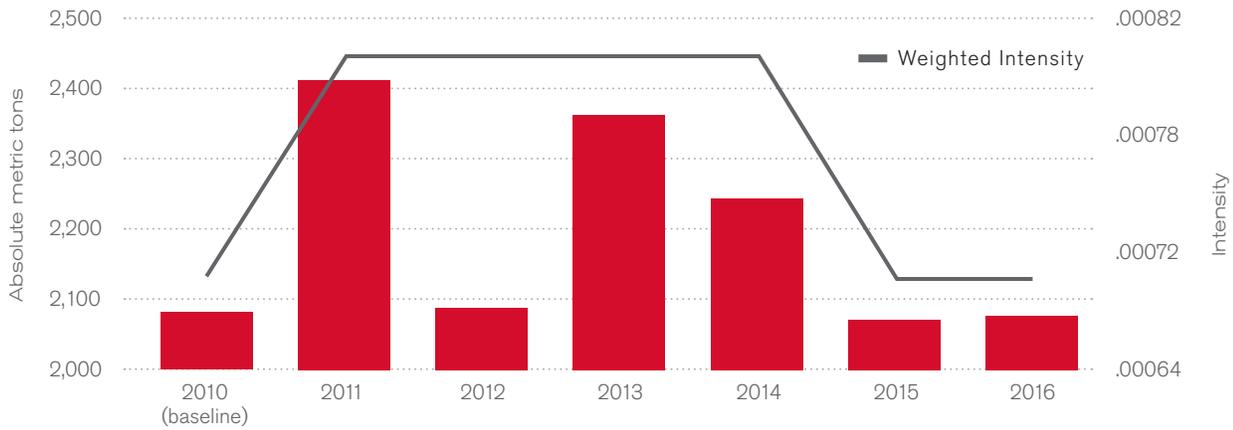
**ENVIRONMENTAL RESPONSIBILITY**

# emissions

## VOC EMISSIONS

In 2010, Owens Corning announced a 14% reduction in VOC emissions from the base year of 2002. Given our past successes and our concerns for pollutants that carry greater air quality challenges, we made a shift in corporate goals from reporting NOx and VOCs to reporting Toxic Air Emissions (TAE).

VOC Emissions



Absolute metric tons	2,081	2,408	2,087	2,359	2,241	2,071	2,076
Weighted intensity percentage	100	103	102	106	103	95	95
Weighted intensity (MT/MT of product produced)	0.0007	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007

ENVIRONMENTAL RESPONSIBILITY

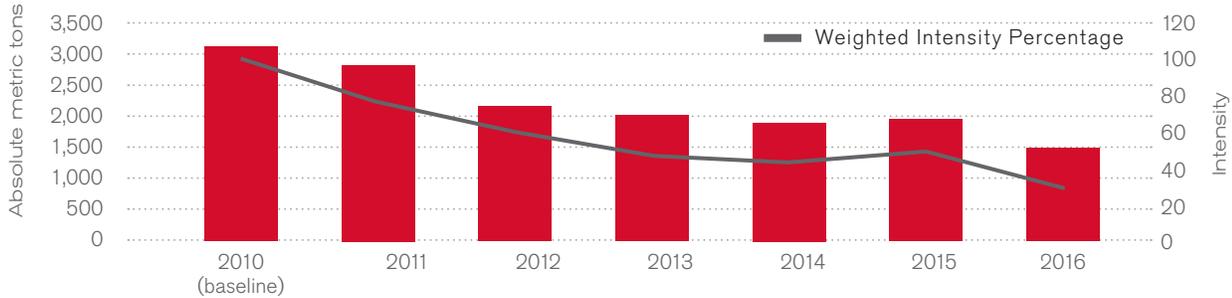
# emissions

## AIR EMISSIONS

### NOx and SOx Emissions

As part of our broader sustainability framework, we manage, track and report against NOx and SOx air emissions requirements. In 2016, we saw a 24% absolute reduction in NOx and 14% absolute reduction in SOx from 2015. From an intensity standpoint, we achieved a 42% reduction in NOx emissions intensity and an 18% reduction in SOx emissions intensity from 2015. These reductions also compare favorably against our 2010 baseline metrics.

#### NOx Emissions



Absolute metric tons	3,094	2,808	2,156	2,010	1,890	1,950	1,488
Weighted intensity percentage	100	77	58	45	43	48	28
Weighted intensity (MT/MT of product produced)	0.0019	0.0015	0.0011	0.0008	0.0008	0.0009	0.0005

#### SOx Emissions



Absolute metric tons	2,462	2,302	1,880	1,996	2,003	1,920	1,646
Weighted intensity percentage	100	79	62	62	64	57	47
Weighted intensity (MT/MT of product produced)	0.0009	0.0007	0.0005	0.0005	0.0006	0.0005	0.0004

**ENVIRONMENTAL RESPONSIBILITY**

# emissions

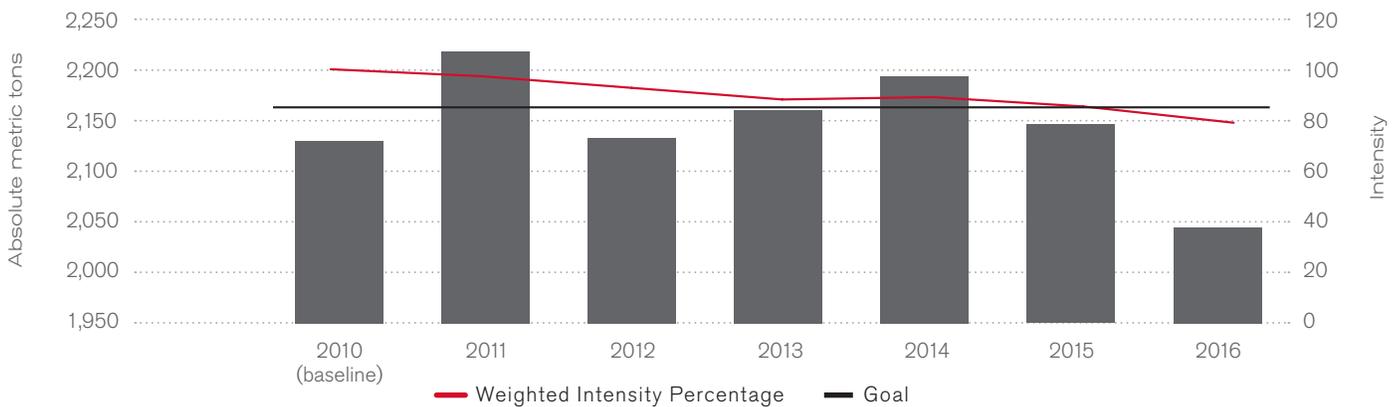
## FINE PARTICULATE MATTER, PM2.5

In 2010, we committed to a 15% reduction goal for PM2.5 by 2020. In 2016, we achieved a 23% reduction in PM2.5 emissions intensity from our 2010 baseline year, surpassing our 2020 goal.

The residential EcoTouch® insulation conversion has driven much of the improvement seen to date. As evidenced by the conversion, the key to achieving further gains will be capturing more synergies between greening our products and greening our operations.

To ensure consistency of testing for air and PM2.5 emissions, we have subject matter experts who oversee testing at our facilities and verify the results. These individuals travel on-site for the testing events and review the lab results and findings. Additionally, they partner with the business units and plants to ensure that we understand the impact of potential changes to our processes and plan accordingly for future events.

PM2.5 Emissions



Absolute metric tons	2,127	2,214	2,130	2,157	2,190	2,143	2,043
Weighted intensity percentage	100	97	92	87	88	84	77
Weighted intensity (MT/MT of product produced)	0.0017	0.0016	0.0015	0.0014	0.0015	0.0014	0.0013

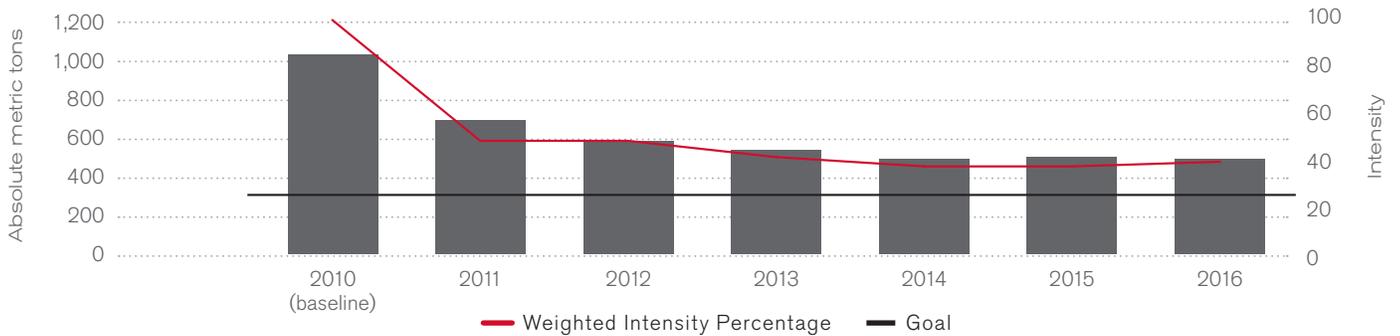
ENVIRONMENTAL RESPONSIBILITY

# emissions

## TOXIC AIR EMISSIONS

Given our significant progress on air emissions, in 2016, we announced a new toxic air emissions (TAE) goal, a 75% reduction in TAE intensity by 2020 from the 2010 baseline. In the current reporting cycle, we achieved a 52% absolute reduction in TAE and a 61% reduction in Toxic Air Intensity.

Toxic Air



Absolute metric tons	1,019	683	579	531	488	496	489
Weighted intensity percentage	100	63	48	41	37	37	39
Weighted intensity (MT/MT of product produced)	0.0011	0.0007	0.0005	0.0005	0.0004	0.0004	0.0004

Owens Corning defines TAEs to include hexavalent chromium, formaldehyde, manganese, polycyclic aromatic compounds and ammonia. This shift in focus for air emissions acknowledges our past successes and our concern for pollutants that carry greater air quality concerns.

See the Appendix for additional Emissions data.

## ENVIRONMENTAL RESPONSIBILITY

# water

Owens Corning believes that key conclusions regarding the impact of human activity on global climate change have earned widespread support, requiring the reduction of greenhouse gas emissions (GHG) around the world. We recognize climate change will have a significant impact on the world's water resources, and Owens Corning is focused on conserving water by improving our water use efficiency and using recycled and recirculated water when possible.

### STRATEGY AND APPROACH

Owens Corning relies on high-quality water for many of our manufacturing processes. We understand that regional water scarcity could substantially disrupt our operations. Limited water availability and rising water costs can also significantly impact our business expansion plans and operating costs. Given our dependence on water and understanding of our water risk, we are committed to minimizing water consumption and potential contamination from the production, use and disposal of our products. We ensure this by focusing on water efficiency, deploying the sustainability mapping tool in the development of new and significantly changed products, performing Life Cycle Assessments (LCA) on all of our core products, and enabling product stewardship reviews of our products.

Our water management tools and systems enable us to accurately track our water usage and identify potential risks and environmental impacts. We use this information to develop robust strategies to mitigate risks associated with water. Our management strategy enables us to optimize and reduce water consumption through proactive measures such as the recycling and reuse of water, and leak detection and repair. We also provide training to create employee and stakeholder awareness of effective water utilization.

Our exposure to supply and other water-related risks varies among our geographies, processes and product lines. To proactively minimize the effect of water risk, we regularly conduct risk assessments using the World Resources Institute (WRI) Aqueduct Tool for our locations and the locations of our suppliers. We conduct LCAs of our products to identify the amount of water embodied in each product. We routinely evaluate any process, product, regulatory or price changes in our facilities as well as each site's environmental footprint.

We have implemented water conservation initiatives, such as reuse and recycling of effluent water, in facilities located in both water-stressed and non-stressed areas. Since 2010, we have considerably increased our water recirculation and recycling percentages. In keeping with our environmental policies and guidelines, we ensure that all of our facilities meet or exceed requirements for release of effluents and implement reduction targets that go beyond regulatory compliance.

ENVIRONMENTAL RESPONSIBILITY

water

All of our facilities must comply with national, state and local regulations and permits regarding water withdrawals and wastewater discharges. At our top three water-discharging facilities, we have deployed advanced water treatment systems to ensure that the facilities' discharge water is a higher quality than dictated by their permit levels. These initiatives have helped reduce our total water discharge by more than 1 million cubic meters per year from 2010 levels. Moreover, several of our facilities have achieved a zero discharge level (other than water discharged for irrigation).

Partnering with stakeholders at both local and broader levels enables us to continually optimize water usage and reduce consumption and waste water requirements. We consider stakeholder engagement critical to mitigating any future conflicts and establishing positive relationships with the communities in which we operate, and we, therefore, proactively engage with local stakeholders on an as needed basis and during new builds.

**Reducing Water Intensity**

Owens Corning continues to pursue opportunities to reduce water usage across our global locations. We established a water intensity reduction target of 35% by 2020, using 2010 as the base year. In 2016, we achieved a 37% reduction, surpassing our goal.

We focus our efforts on facilities that consume significant amounts of water and have higher water use intensities. We also plan to increase the amount of reused and recycled water we use, and expand our water mapping and monitoring efforts within our operations. We achieved a 38% reduction in water intensity during our first 10-year goal cycle (2002-2012).



SURPASSING **35%**

In 2016, we achieved a 37% reduction in water intensity, surpassing our target of 35%



# water

## SUSTAINABILITY IN ACTION



### Owens Corning Taloja Plant Takes Water Conservation One Step Further

At Owens Corning, we are dedicated to protecting the environment by reusing, reducing and recycling natural resources. This was put to the test in 2015 when Maharashtra, India, faced a water scarcity, causing the Maharashtra Industrial Development Corporation (MIDC) to cut water for all industries. This statewide cut directly impacted Owens Corning's Taloja, India, plant. When faced with this challenge, Owens Corning plant leaders turned it into an opportunity to help make even greater environmental improvements.

During the MIDC water cut, Taloja plant leaders started evaluating business areas where they could replace raw water usage with recycled Owens Corning Effluent Treatment Plant (ETP) final treated water. Owens Corning's Environmental, Health & Safety (EHS) team met with process owners, including potential internal users of treated water, to further discuss and understand where ETP final treated water could be used while still meeting high levels of performance requirements.

After careful consideration, Owens Corning's Taloja plant started using ETP final treated water for select internal use in April 2016. Departments using ETP treated water include:

- **Forming Basement:** for floor washing and cleaning
- **Filtration Plant:** to make up water for scrubber
- **Chemical Preparation:** to clean the binder and water-miscible chemical drums
- **Effluent Treatment Plant:** for preparation of chemicals (i.e. Solid + Liquid)

This program resulted in the plant's raw water usage dropping nearly 130 cubic meters per day from 2015 to 2016.

Owens Corning's Taloja plant plans to sustain this reduced water usage in 2017 and reuse ETP final treated water up to an additional 100 cubic meters per day internally. ■

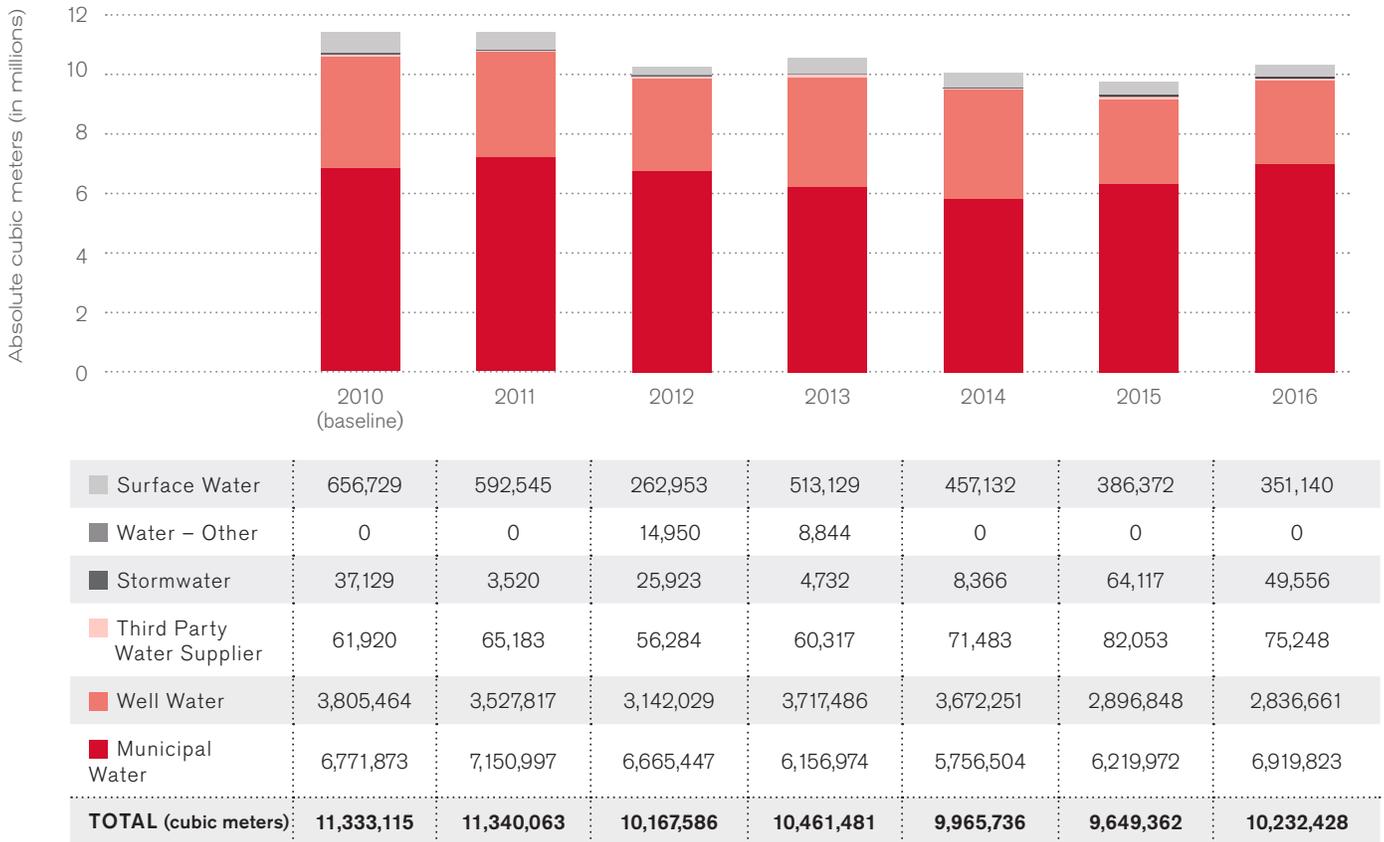
**ENVIRONMENTAL RESPONSIBILITY**

**water**

**WATER WITHDRAWAL BY SOURCE**

We source water for our operations from municipal water supplies, on-site wells, storm water and from off-site water bodies and third parties. In 2016, we consumed a total of 10,232,428 cubic meters of water, a 10% absolute reduction as compared to 2010. From 2015 to 2016, our absolute water withdrawal increased due to increased production. But our water use intensity decreased by 4%. More than 50% of the water we used in 2016 was withdrawn from municipal water supplies.

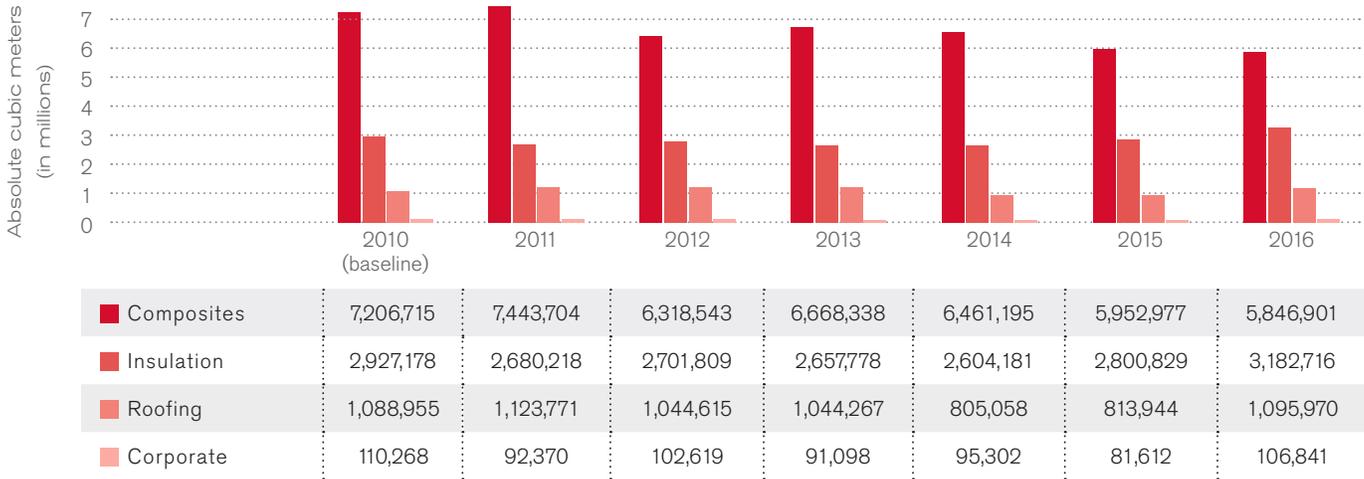
Water Withdrawal by Source



**ENVIRONMENTAL RESPONSIBILITY**

**water**

Total Water Withdrawal by Business



**OPERATIONAL EFFICIENCY**

We believe that plant-level efforts and community engagement are critical to achieving our 2020 water intensity reduction goal. In support of this 35% reduction goal, we have undertaken water-saving initiatives at many of our facilities. Through the design of our products and processes, as well as our product stewardship program, we aim to reduce water consumption and minimize potential water contamination from the use and disposal of our products.

Cradle-to-grave life cycle impacts on water consumption are determined for all products where LCAs were conducted. However, although insulation building materials products contribute to a reduction in energy consumption during use phase, we do not include use phase, or “avoidance” calculations, in our LCAs. Therefore, water consumption for those products, due to decreased energy consumption in the use phase, could be lower than reported. Using this method identifies products with high impact on water use, enabling prioritization of projects to address.

The key to further improvements in water efficiency is enhancing our grassroots engagement. Local-level efforts such as leak detection and repair, the identification of unnecessary water usage, and opportunities for increased water reuse, are essential to successful water use reduction programs. We also recognize the need to continue to assess our operations for additional potential reuse and recycling opportunities at the corporate level.

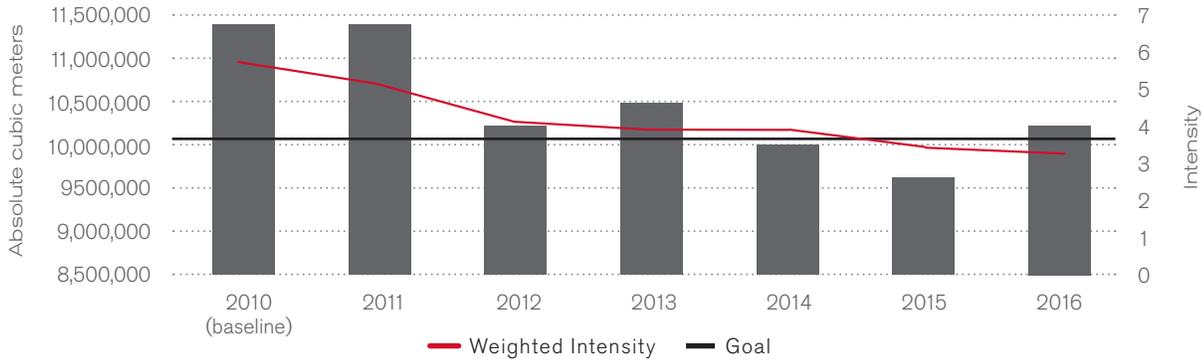
- We continually track water intensity across our facilities and monitor the progress.
- A significant portion of the reductions since 2010 are attributable to our low- or no-cost water efficiency efforts and undertaking more significant capital investment projects.

Our conservation and efficiency efforts have saved an estimated 28,975,000 cubic meters of water since 2010.

**ENVIRONMENTAL RESPONSIBILITY**

**water**

Water



Absolute cubic meters	11,333,115	11,340,063	10,167,586	10,461,481	9,965,736	9,649,362	10,232,428
Weighted intensity	5.79	5.31	4.42	4.21	4.20	3.82	3.66

**WATER RECYCLING AND REUSE**

We have taken several steps to enhance recycling and reuse of water at our plants. Since 2010, we have considerably increased our water recirculation and recycled water percentages in our insulation facilities where processes support using recirculated water. As a result, we have seen a significant decrease in water withdrawal, despite increasing production in these facilities.

As a company, we consider recirculated water as water that is used in the production of prime product and is (a) used in a recirculating (closed-loop) system; and (b) exits the recirculating system when it evaporates or the recirculating system is flushed or cleaned. We define recycled water as water that is used in the production of prime product and is then (a) pulled out of a specific production process area, mechanically and/or chemically treated, then returned to the same process; or (b) pulled out of a specific production process area and used in a different area (either production-related or nonproduction-related). In several facilities that manufacture our composites products, process water is recycled and utilized for cooling towers and landscaping purposes.

In 2016, Owens Corning had a total water withdrawal of 10,232,428 cubic meters, of which 3%, or 345,604 cubic meters, was recycled. We recirculated 176,681,942 cubic meters of water, which constitutes 1,727% of total water use. Our newly acquired plants are not currently tracking recycled or recirculated water, impacting our percentages. During the coming years, Owens Corning will work with these sites to better understand their water processes and data, then implement water recycling and recirculation where appropriate.

**ENVIRONMENTAL RESPONSIBILITY**

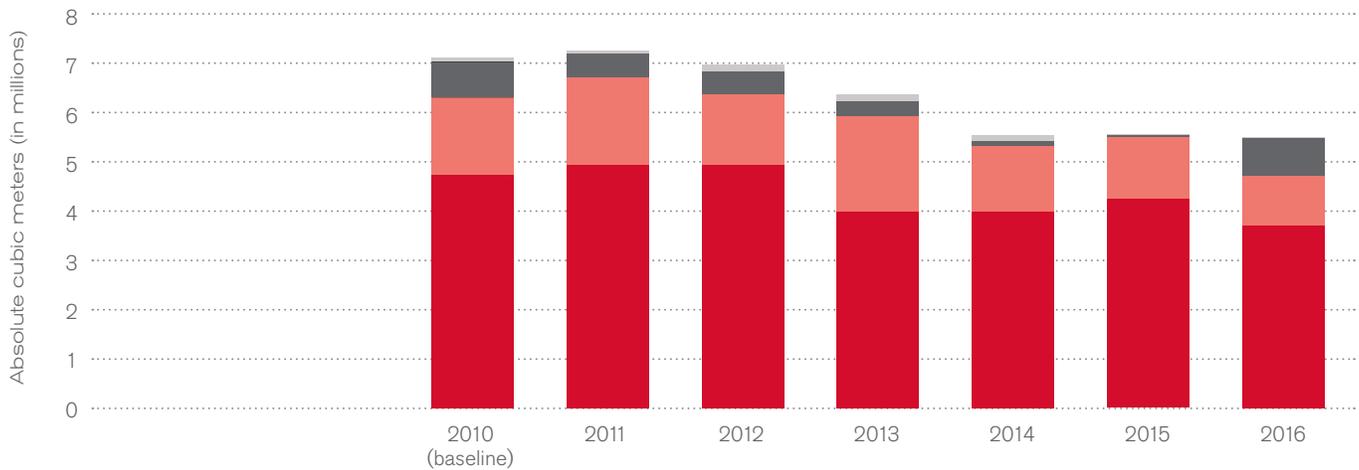
**water**

**WATER DISCHARGE**

We track and report discharge quantities across all facilities by measuring and monitoring water discharge through meter readings and invoices. In places where meter readings are unavailable, the calculation is based on estimates of water withdrawn, consumed and evaporated through our production processes.

Compared to 2015, we reduced overall water discharge by more than 48,400 cubic meters, or 1%, in 2016. Additionally, many of our facilities have achieved zero discharge – excluding water discharged for irrigation.

Water Discharge by Source



Year	Wastewater - Offsite Shipment	Wastewater - Other	Wastewater - Stormwater	Wastewater - Surface Water	Wastewater - POTW	TOTAL (cubic meters)
2010 (baseline)	68,613	727,747	0	1,575,389	4,781,843	7,153,592
2011	44,726	484,773	0	1,781,824	4,984,457	7,295,780
2012	127,048	468,150	0	1,452,192	4,971,338	7,018,728
2013	136,340	284,406	0	1,968,251	4,013,971	6,402,968
2014	106,458	110,931	0	1,352,934	4,012,184	5,582,507
2015	939	50,322	0	1,248,971	4,286,977	5,587,209
2016	5,014	774,520	3,163	1,019,489	3,731,593	5,533,779

# water

We monitor water discharge intensity and achieved a 15% reduction in 2016, as compared to 2015.

## Wastewater Intensity

2010	2011	2012	2013	2014	2015	2016
3.98	3.37	2.61	2.85	2.56	2.69	2.20

*Cubic meters of wastewater discharged per MT of product produced*

We ensure that discharged water quality meets the prescribed limit and the standards our facilities have implemented for processes to treat water discharge. The table below shows our water quality measurements.

Water Quality	2016
Effluent – B.O.D.	1,698
Effluent – C.O.D.	14,959
Effluent – T.S.S.	5,387

## Plants Where Water Is Mission-Critical Are Monitoring Water Quality

Some of our processes require specific monitoring activities and treatments to ensure we are meeting or exceeding all regulatory requirements. At facilities where Owens Corning has determined water intake and discharge treatment to be critical, we implement additional monitoring and treatment processes best suited for the specific needs of that site. For example, a site in the southern United States uses reverse osmosis to minimize total dissolved solids in incoming water, whereas another facility in the same region has a large filtration treatment system to control discharge.

## IMPACT ON LOCAL WATER BODIES

We conduct annual evaluations of all of our facilities to determine proximity to sites listed as ecologically sensitive or significantly important to maintaining biodiversity. Aquatic evaluations are also completed at the corporate level to determine if any of our facilities are located near rare, threatened or endangered species, sensitive habitats, or the International Union for Conservation of Nature's (IUCN) Red List species.

Water withdrawals from our facilities do not exceed volume thresholds and/or do not extract from Ramsar sites or other highly sensitive water resources (based on our knowledge of suppliers and sources).

## ENVIRONMENTAL RESPONSIBILITY

# water

### RISK ASSESSMENT

We leverage the WRI Aqueduct Water Risk Mapping Tool to screen our sites and suppliers for high baseline water supply stress, 2025 projections for water supply stress changes, frequency of drought, as well as upstream water quality. We combine the tool with internal knowledge on our facilities located in high water-stress areas. The top 87% of our supplier spend is analyzed for risk and impact. Annual self-assessments are also conducted by suppliers and the results of the assessments are sent to us, including whether or not suppliers are setting goals to reduce water usage.

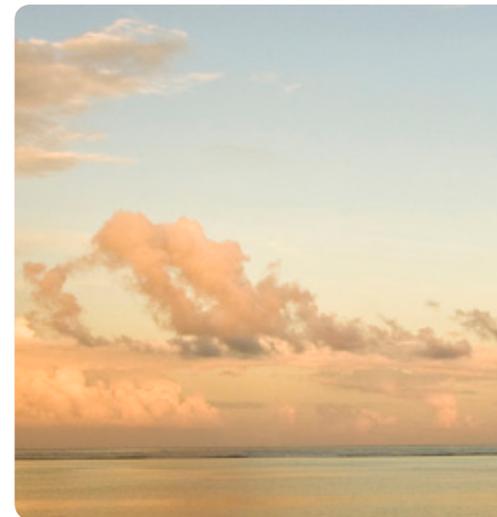
Baseline water stress index value from the WRI Aqueduct Tool is used to estimate current and future water availability at local levels. The index value is overlapped with the Company's projected water demand based on operational changes. We have developed water management plans to optimize water efficiency at facilities in water-stressed regions with high water demand.

In 2016, for the fifth straight year, we performed a footprint analysis of water-stressed areas. We identified 10 of our facilities as being in water-stressed areas. This number accounts for about 9% of our active manufacturing facilities and 3% of our total water use.

### IMPACT OF DISCHARGE WATER

Owens Corning is not impacting any special protected water bodies and related habitats anywhere as defined at the country level by the UN World Heritage Sites, UN Biosphere Sites, Ramsar Wetlands or Natura 2000 (European Sites). This determination is based on an evaluation conducted annually by Owens Corning, which continues to show lack of proximity of company manufacturing site locations to the special sites or species. Regarding environments that are around our facilities, discharges are controlled through permits and required monitoring. Unauthorized discharges and runoff must also be reported to the environmental and legal departments of the corporation and corrective action must be taken if occurring. Employees are subject to disciplinary action for knowing failure to comply with legally-required environmental reporting.

*Additional information available in our CDP Water 2017 Report, which will be published in the third quarter on our sustainability website.*



## THE TOP 87%

of our supplier spend is analyzed for risk and impact

## ENVIRONMENTAL RESPONSIBILITY

# waste

Owens Corning is committed to protecting, sustaining and improving the environment for the benefit of current and future generations. Waste management is a high priority at Owens Corning, beginning with the operational efficiency of our production processes and extending to the use and disposal of materials after they have been recycled. We are focused on becoming zero waste-to-landfill (WTL), and we continuously look for ways to recover, reuse and recycle byproducts and other waste material.

### STRATEGY AND APPROACH

Sustainable success cannot be achieved solely by manufacturing superior products; it requires operational excellence in the utilization of raw materials as well as minimizing the scrap materials produced through the production process. As part of our 2020 sustainability goals, we are committed to conserving resources while protecting the environment and society.

As part of our waste management plan and our journey to achieve zero waste, we are continually looking for alternatives to using landfills and for solutions to minimize waste through source reduction and reuse/recycle techniques. During the initial design phase and through continuous improvement efforts, we seek to increase the percentage of recycled content in our products and packaging materials. We have established ourselves as one of the largest users of recycled glass in the world by using more than 1 billion pounds annually. Our collaboration with other companies reinforces our commitment to better waste management by enabling us to increase the recycling of glass containers and factory waste. By sourcing recycled glass, we have significantly reduced community landfill waste as well as minimized our energy usage in manufacturing insulation.

Our waste reduction strategy also focuses on reducing waste during the complete life cycle of our products. We have established a product stewardship review process, which is

conducted at various stages, including the design, development, test market, manufacture and distribution phases, to conserve resources and prevent waste through our business operations.

We ensure that we meet all the regulatory requirements related to waste and implement reduction efforts beyond compliance. We conduct periodic assessments to ensure compliance with internal and external standards, guidelines and laws.

Waste  
Reduction  
Goal

70% **REDUCTION**

in waste-to-landfill intensity  
between 2010 and 2020





## ENVIRONMENTAL RESPONSIBILITY

# waste

Understanding our waste data was one of the first steps in driving both plant-level and corporate awareness. This knowledge helped justify and focus key resources across our businesses to identify and develop both internal and external solutions for Owens Corning's process waste streams. As a result of these resources and a centralized contact for waste reduction initiatives, we are now able to share ideas, as well as share waste reduction best practices and recycling outlets across our network of plants, businesses and R&D.

This network and improved communication have resulted in the following initiatives:

- An outlet previously used exclusively to repurpose off-spec shingles from Owens Corning's Roofing Plants is now also repurposing off-spec insulation.
- A recycler that was previously repurposing scrap from just one of our non-wovens composite plants has now expanded and is capable of repurposing materials from all U.S.-based non-wovens plants.
- All of our Roofing and non-wovens plants, rather than just a limited number of Roofing plants, are now able to send by-products to a manufacturer for repurposing.
- One of our composite plants identified an outlet that has enabled the repurposing of off-spec materials from our U.S. and European manufacturing plants into alternative end-use applications across Asia Pacific.
- Following an Owens Corning networking function, our Mexico City plant is now taking advantage of a recycling outlet shared with its sister plant in Tlaxcala, Mexico.

In addition to expanding upon existing programs, Owens Corning teams are pursuing waste reduction initiatives at multiple levels and across various functional areas:

- In 2016, Owens Corning's Rio Claro composite reinforcements plant in Brazil installed a second shredder to process by-products from its operations, resulting in a 52% increase in materials being repurposed.
- One of Owens Corning's mineral wool plants has been working with Waste Hub, an engineering/marketing firm, to develop a process that will not only reduce waste-to-landfill, but also turn the waste into a revenue-generating product.
- Owens Corning's Sourcing group has actively engaged the support of our waste management partners to identify and deliver waste-to-landfill reduction opportunities.



# waste

## SUSTAINABILITY IN ACTION



### WasteHub Partnership Creates Viable Alternative for Waste Material

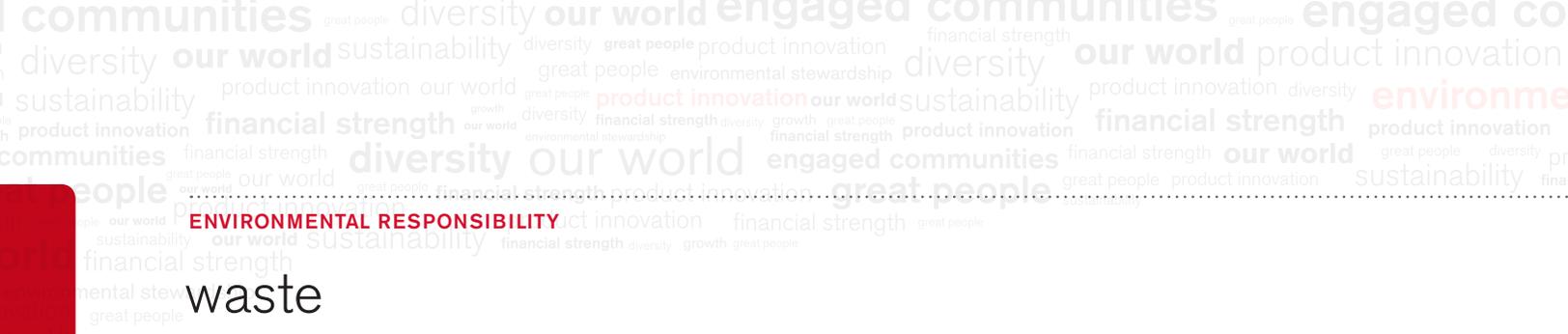
Owens Corning has recently embarked on a two-phased project with WasteHub at our Thermafiber® plant in Wabash, Indiana, U.S. WasteHub helps companies develop ways to repurpose their manufacturing by-products to reduce impact on the environment. The partnership with WasteHub was introduced two years ago. After an evaluation of Owens Corning waste and plant needs, the team decided to focus on the Wabash plant, which has unique waste streams that are different from other plants, including one of the largest waste streams in a single plant. WasteHub is working with the plant to repurpose waste material – in this case, dragline shot – which accumulates over 20,000 metric tons per year.

As a first step, WasteHub conducted trials and testing on the dragline shot's waste materials, including drying and screening the materials until only the fine dragline shot was left. The material was then sent off to a potential customer to test it as an abrasive blast media, which was successful. Another key milestone included ensuring the material was silica-free and in compliance with new Occupational Safety and Health Administration (OSHA) regulations.

Once testing was complete, WasteHub and the plant decided that the process would work best in a two-phased approach. The first phase involves dewatering the waste materials to reduce landfill costs, as 40% of the current waste stream consists of water. The second phase involves taking the dragline shot and selling it as an abrasive blast media.

Following these initial steps, the Wabash plant is currently in the process of phase one, having purchased some equipment and completed trials. The equipment will be installed in July 2017 and is expected to be up and running in early September. In the meantime, the plant is sending out dewatered materials to have them screened and is sending additional samples to potential customers to get their evaluation of the materials for their potential use. Now, for the Wabash plant, what once was a waste stream will not only save landfill costs, but will ultimately generate a new revenue stream for the plant. ■





## SUSTAINABILITY IN ACTION — CONTINUED

# Owens Corning Donates Reusable Materials to Nonprofit Hose2Habitat

- Kearny, New Jersey
- Lakeland, Florida
- Memphis, Tennessee
- Minneapolis, Minnesota
- Nephi, Utah
- Newark, Ohio
- Oklahoma City, Oklahoma
- Portland, Oregon
- Rockford, Illinois
- Santa Clara, California
- Toronto, Ontario, Canada
- Waxahachie, Texas
- Wichita Falls, Texas

As we continue working to reduce our waste-to-landfill impact, programs such as Hose2Habitat provide Owens Corning employees with a resourceful, employee-led way to reduce our environmental footprint and expand our handprint. ■



**ENVIRONMENTAL RESPONSIBILITY**

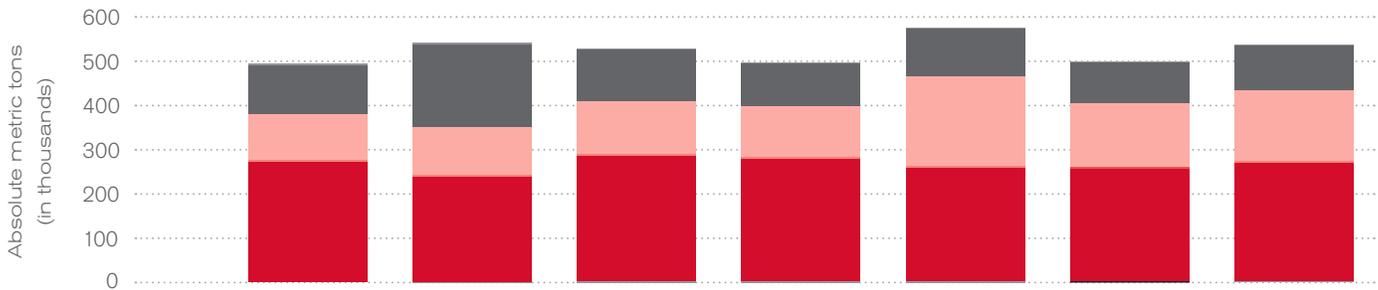
**waste**

**TOTAL WASTE GENERATED AND DISPOSED OF**

Owens Corning categorizes waste into hazardous and non-hazardous categories. The majority of waste generated in our facilities is either landfilled or recycled. Depending on the type of waste, we also use other waste disposal methods such as commercial composting, incineration and returning waste to supplier.

In 2016, we generated 545,590 metric tons of total waste. The overwhelming majority, 538,324 metric tons, was non-hazardous waste.

**Non-Hazardous Waste by Disposal Method**



	2010 (baseline)	2011	2012	2013	2014	2015	2016
Commercial Composting	10	10	15	217	105	251	66
Incinerated With Energy Recovery	463	620	1,506	1,295	3,060	1,365	2,138
Incinerated Without Energy Recovery	521	643	841	693	39	42	228
Recycled Externally (off-site)	110,302	190,893	115,692	94,889	107,057	92,500	100,639
Recycled Internally (on-site)	106,760	109,656	124,588	119,791	206,748	146,296	163,878
Returned to Supplier	464	759	47	141	22	12	1
Other or Unknown	171	0	0	0	116	752	322
Waste-to-Landfill	274,507	239,242	285,341	279,968	258,400	258,376	271,052
<b>TOTAL</b>	<b>493,199</b>	<b>541,824</b>	<b>528,030</b>	<b>497,003</b>	<b>575,547</b>	<b>499,593</b>	<b>538,324</b>

**ENVIRONMENTAL RESPONSIBILITY**

**waste**

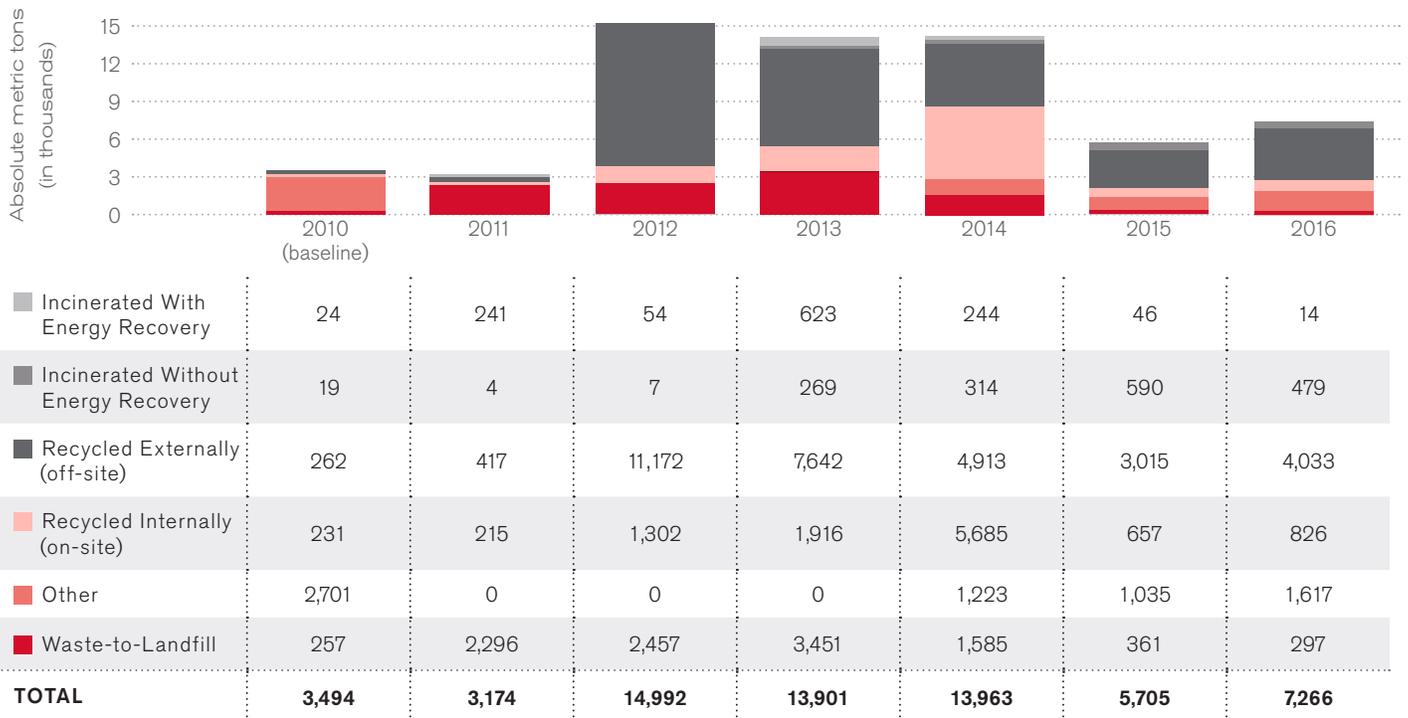
Non-Hazardous Waste by Business (metric tons)

	2010 (baseline)	2011	2012	2013	2014	2015	2016
Composites	220,974	251,513	187,618	194,562	187,450	187,429	198,654
Insulation	198,975	211,951	258,059	224,835	312,772	245,782	269,449
Roofing	71,914	77,053	81,005	74,652	73,614	64,664	68,825
Corporate	1,336	1,306	1,349	1,955	1,712	1,718	1,396
<b>TOTAL</b>	<b>493,199</b>	<b>541,823</b>	<b>528,031</b>	<b>496,004</b>	<b>575,548</b>	<b>499,593</b>	<b>538,324</b>

**Hazardous Waste**

Owens Corning facilities generate small amounts of hazardous waste during production and maintenance operations. This typically includes spent cleaning solvents, paint-related wastes and spent laboratory chemicals. There are also some business-specific hazardous wastes. For example, Owens Corning's Roofing business uses flammable ink to mark the shingle wrappers, so any unused ink or ink conditioner would contribute a small amount to the total hazardous waste disposed at that facility. Each location has an appropriate hazardous waste management system to ensure that the waste is properly and safely disposed. We incinerate, landfill, commercially compost or internally recycle all of the hazardous waste that is generated through our operations.

Hazardous Waste by Disposal Method



# waste

## Hazardous Waste by Business (metric tons)

	2010 (baseline)	2011	2012	2013	2014	2015	2016
Composites	2,213	2,436	12,655	11,503	7,471	4,164	4,934
Insulation	1,207	655	1,886	2,167	6,330	1,334	2,026
Roofing	69	70	427	210	148	188	290
Corporate	5	13	24	21	14	19	16
<b>TOTAL</b>	<b>3,494</b>	<b>3,174</b>	<b>14,992</b>	<b>13,901</b>	<b>13,963</b>	<b>5,705</b>	<b>7,266</b>

In 2016, we generated 7,266 metric tons of hazardous waste. A total of 297 MT of hazardous waste was sent to the landfill. Our business units have established a mechanism to track the intensity and amount of hazardous waste generated. The increases in hazardous waste over the years are correlated to our rebuild cycles for our glass manufacturing locations.

During the reporting period, no hazardous wastes, which can be classified under the terms of the Basel convention, were imported, exported, transported, treated or shipped internationally for disposal.

## Hazardous Waste Intensity (MT/MT of product produced)



**ENVIRONMENTAL RESPONSIBILITY**

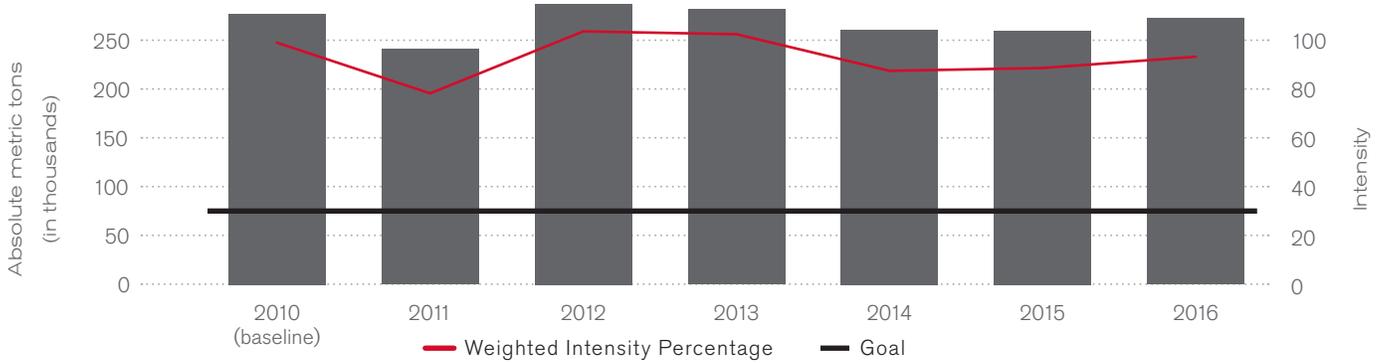
# waste

## REDUCING WASTE-TO-LANDFILL (WTL)

It is our long-term goal to generate zero WTL. In the interim, we have a goal to reduce WTL intensity (WTL disposed per unit of product) by 70% by 2020, compared to the 2010 baseline.

Compared to 2010, we are currently at a 5% reduction in landfilled intensity. Our overall diverted tons have increased by 40% since 2010. We have a Global WTL Leader within the sustainability organization to drive WTL reductions and foster relationships with inside and outside stakeholders.

Waste-to-Landfill



Absolute metric tons	277,636	241,539	287,798	282,419	261,323	260,523	273,288
Weighted intensity percentage	100	82	104	103	90	91	95
Weighted intensity (MT/MT of product produced)	0.108	0.088	0.112	0.112	0.098	0.099	0.103

*Intensity is normalized based on MT of product produced*



## ENVIRONMENTAL RESPONSIBILITY

### waste

As a company, we honor and recognize our facilities for their waste management efforts, using an internal rating system focusing on diversion from the landfill compared to the total waste generated. The rating scale ranges from platinum for 100% waste diversion, followed by gold for 98% and above waste diversion, and silver for 80 to 98% waste diversion. For 2016, 31 plants received recognition for their efforts.

#### **Platinum**

- Asan, Korea (Roofing)
- Thimmapur, India (Composites)
- Thimmapur, India, Foam (Insulation)
- Kearny, New Jersey (Roofing)
- Medina, Ohio (Roofing)
- Mt. Vernon, Ohio (Insulation)

#### **Gold**

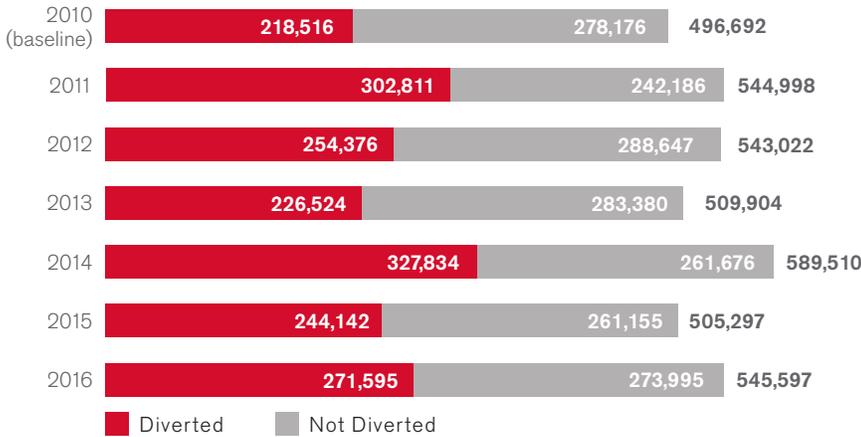
- Rio Claro, Brazil, Fabrics (Composites)
- Rockford, Illinois, Foam (Insulation)
- Taloja, India (Composites)
- Valleyfield, Quebec, Canada, Foam (Insulation)
- Yuhang, China (Composites)
- Nanjing, China, Foam (Insulation)
- Portland, Oregon, Asphalt (Roofing)
- Portland, Oregon, Roofing (Roofing)
- Ridgeview, South Carolina (Insulation)
- Rio Claro, Brazil, Foam (Insulation)
- Santa Clara, California (Insulation)

#### **Silver**

- Changzhou, China (Composites)
- China Composites Center (Corporate)
- Cleveland, Tennessee (Insulation)
- Doudian, China (Composites)
- Edmonton, Alberta, Canada, Foam (Insulation)
- Fairburn, Georgia (Insulation)
- Gresham, Oregon, Foam (Insulation)
- Shanghai, China (Insulation)
- Springfield, Tennessee (Insulation)
- Suvia, China (Roofing)
- Tianjin, China, Fiberglass (Insulation)
- Tianjin, China, Foam (Insulation)
- Tiffin, Ohio (Insulation)
- Toronto, Ontario, Canada (Insulation)

# waste

## Diverted vs. Not Diverted Waste (metric tons)



## SIGNIFICANT SPILLS

Owens Corning understands that our operations can have an impact on the environment through releases, spills, or disposal of wastes and other substances. In the event of such incidents, we remain responsible for completing environmental remediation, maintaining remediated sites, or providing funding support at multi-party disposal facilities. Since 2013, Owens Corning has had no significant spills.

## Spills (2012-2016)

	2012	2013	2014	2015	2016
Number of spills	2	0	0	0	0
Total volume of spill (in cubic meters)	111	0	0	0	0

Neither of the two spills in 2012 resulted in fines or penalties. They were both cleaned up and the root causes were identified and corrected. No environmental damage resulted from these events.

## ENVIRONMENTAL RESPONSIBILITY

# protecting biodiversity

Owens Corning strives to be a net positive company. We aim to meet the needs of the present without compromising the world we leave to the future, and, ideally, to make sure the world is a better place as a result of our role in it. Accordingly, we are committed to preserving and enhancing the natural habitats that surround our operations around the world.

### STRATEGY AND APPROACH

We assess the biodiversity risk of all of our sites to determine if we are operating within or near protected areas or areas with high biodiversity value. This analysis includes comparing the location of our operations to those of the most protected and highly valued sites for biodiversity, including United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites and Biosphere Reserves; RAMSAR Wetlands sites; Alliance for Zero Extinction sites (IUCN Red List); and Natura 2000 sites (as applicable to Europe) to identify any biodiversity risks.

Based on our detailed assessment, we have a good understanding of our biodiversity risk profile and have determined that we have no facilities within 5 miles of any of these sites.

Within our own operations, Owens Corning does not remove minerals or other resources from the surface of the land or under the land. We focus on meeting all of our regulatory obligations related to air, water and waste; implementing footprint reductions beyond compliance and following our corporate environmental policies and guidelines; and conducting periodic assessments to evaluate the environmental performance of our operations. We engage stakeholders in our process and take environmental considerations, including natural resource protection, into account as part of capital project planning and internal approval. We also have a new proactive program to promote

the use of more native vegetation on our properties to enhance indigenous and migrating wildlife.

Within our portfolio, we have three small closed landfills as well as a dismantled plant in New Jersey, a listed biosphere site. The landfills, which comprise a total of 164 acres, are properly capped, vegetated and routinely inspected, and they attract wildlife.

In 2015, Owens Corning issued its Biodiversity Statement, in which the Company pledges to:

- **Integrate biodiversity assessments** into current and proposed activities;
- **Work with governmental agencies** at each of our operating locations to obtain appropriate clearances and information to operate and take appropriate measures if necessary such as capital investments to protect the environment including sensitive ecosystems;

ENVIRONMENTAL RESPONSIBILITY

# protecting biodiversity

- **Encourage and support facilities to participate in local initiatives** to protect and restore biodiversity;
- **Publicly report on biodiversity impacts and activities** in a timely, consistent, and transparent manner; and
- **Understand and positively influence** our supply chain's impact on biodiversity

Read more in our [Biodiversity Statement](#) on the Owens Corning website.

## Granville, Ohio Facility

# GOLD CERTIFIED

by Wildlife Habitat Council

In 2015, we began a partnership with the Wildlife Habitat Council. Through this partnership, we have created valuable native habitats at various Owens Corning sites, including establishing pollinator gardens, prairie restorations, bird box programs and regular employee education events. Our programs at our Granville, Ohio, site were recognized in 2016 with Wildlife Habitat Council Gold Certification, the highest level of certification possible.

Learn more on the following page and by viewing our [Wildlife Habitat Council video](#).







## ENVIRONMENTAL RESPONSIBILITY

# environmental control

Owens Corning has established policies and procedures to ensure that its operations are conducted in compliance with all relevant laws and regulations and that enable the Company to meet its high standards for corporate sustainability and environmental stewardship.

Our manufacturing facilities are subject to numerous foreign, federal, state and local laws and regulations relating to the presence of hazardous materials, pollution and protection of the environment, including emissions to air, discharges to water, management of hazardous materials, handling and disposal of solid wastes and remediation of contaminated sites. All company manufacturing facilities operate using an ISO 14001 or equivalent environmental management system. The Company's 2020 Sustainability Goals require significant global reductions in energy use, water consumption, waste to landfill, emissions of greenhouse gases, fine particulate matter and toxic air emissions. The Company is dedicated to continuous improvement in our environmental, health and safety performance and to achieving its 2020 Sustainability goals.

The Company has not experienced a material adverse effect upon our capital expenditures or competitive position as a result of environmental control legislation and regulations. Operating costs associated with environmental compliance were approximately \$29 million in 2016. The Company continues to invest in equipment and process modifications to remain in compliance with applicable environmental laws and regulations worldwide.

Regulatory activities of particular importance to our operations include those addressing air pollution, water pollution, waste disposal and chemical control. The Company expects passage

and implementation of new laws and regulations specifically addressing climate change, toxic air emissions, ozone forming emissions and fine particulate matter during the next two to five years. New air pollution regulations could impact our ability to expand production or construct new facilities in certain regions of North America. However, based on information known to the Company, including the nature of our manufacturing operations and associated air emissions, at this time we do not expect any of these new laws, regulations or activities to have a material adverse effect on our results of current operations, financial condition or long-term liquidity. On December 31, 2016, the Company had an accrual totaling \$4 million for these costs. Changes in required remediation procedures or timing of those procedures at existing legacy sites, or discovery of contamination at additional sites, could result in material increases to the Company's environmental obligations.



**ENVIRONMENTAL RESPONSIBILITY**

# environmental control

Owens Corning is involved in remedial response activities and is responsible for environmental remediation at a number of sites, including certain of its currently owned or formerly owned plants. These responsibilities arise under a number of laws, including, but not limited to, the Federal Resource Conservation and Recovery Act (RCRA), and similar state or local laws pertaining to the management and remediation of hazardous materials and petroleum. The Company has also been named a potentially responsible party under the United States Federal Superfund law, or state equivalents, at a number of disposal sites. The Company became involved in these sites as a result of government action or in connection with business acquisitions. At the end of 2016, the Company was involved with a total of 19 sites worldwide, including seven Superfund sites and 12 owned or formerly owned sites. None of the liabilities for these sites are individually significant to the Company.

## ENVIRONMENTAL RESPONSIBILITY

# accountability for operations sustainability

Reflecting our commitment to holistic environmental management, Owens Corning has many programs to incentivize and recognize the efforts of individuals and teams across the Company. For example, monetary rewards for the corporate executive team, energy managers and environmental and sustainability managers, are based on progress toward our 2020 environmental goals.

Among other programs, our Composites business has an annual contest designed to drive participation for the Plant Energy Teams, with cash awards managed by the Energy Efficiency Program Manager. This program evaluates, among other things, implementation of low-cost/no-cost improvement projects, year-over-year energy intensity metric improvement, completion of a project listing for the following year, engagement in an energy program, participation in energy program communications and implementation of electrical reliability actions.

Owens Corning utilizes a combination of monetary and non-monetary incentives in our management of the environment and doing our part to prevent climate change. Examples of our non-monetary incentives for the management of climate change issues includes Owens Corning annual global Environmental, Health & Safety Awards, which are available to all employees include:

- The **Environmental Excellence** award is designed to recognize sustained excellence in environmental stewardship and areas of regulatory or public interest. Teams or individuals considered for this award oversee mature, well-run environmental management systems, have a fully functioning and inclusive task manager or compliance calendar, have no nonconformities for significant periods of time, and maintain high levels of trust and engagement with regulatory agencies. They may also oversee the effective implementation of broad regulatory changes, large equipment installations or process product

changes with significant environmental benefits. Winners in this category may also be recognized as outstanding mentors and talent leaders who influence and develop others. The award winners for 2016 included:

- » The **Toronto Energy Savings and Environmental Impact team** implemented a project that achieved significant energy savings as well as significant environmental impact reductions. The project included converting from natural gas to electricity supplied through Toronto Hydro with a rebate incentive, which was the largest ever received within the Insulation business. This project was also the largest energy savings project undertaken by a company in the history of Toronto Hydro's Energy Incentive Program. In appreciation, Toronto Hydro recognized Owens Corning Canada LP as a Customer for Conversation, and presented the Toronto plant with an Energy Conservation Leadership plaque.



## ENVIRONMENTAL RESPONSIBILITY

# accountability for operations sustainability

- » The **Insulation Cullet team**, with members from Engineering, Sourcing, Science & Technology, and Transportation, changed the raw batch melting process for Insulation Business plants over the past five years by increasing and sustaining cullet usage at or above 75% of insulation glass melted. This yielded longer furnace life for improved capital efficiency and reduced melting energy for greenhouse gas savings. Plants have achieved new environmental regulations on gas/oxygen melters and raw material cost savings. The efforts also have kept 9.9 billion pounds of glass out of U.S. landfills.
- The **Environmental Outreach** award recognizes teams or individuals who actively participate in community environmental programs or initiatives, who may organize special events to raise environmental awareness, or who work to mentor smaller facilities, customers or vendors in environmental stewardship. The 2016 awardees included the Asian Plant Community Environmental Volunteers. This group of Owens Corning employees has cleaned up a seaside park near their plant every month since 2014. The Korean Ministry of the Environment and local government encouraged groups to volunteer for cleanup work by sponsoring a contest. About 42 individual and public institutions participated in this volunteer work locally during 2016.
- The **Environmental Impact Improvement** award recognizes individuals or teams that significantly reduce environmental impacts or receive public recognition or awards for environmental impact improvement. Requirements for this award include significant reduction in one or more aspects initiated by the plant team or individual, which may or may not include public recognition and product, process or program innovation that reduces product-related life-cycle environmental impacts or significantly improves business compliance performance. The 2016 awardees included the Aiken Waste Water Project. This group was a composite team of EHS, maintenance and engineering who were tasked to redesign the waste water treatment plant. The project team was able to overcome challenges in a short timeline by providing a long-term, efficient solution for managing waste water and being a responsible environmental citizen.



## SOCIAL RESPONSIBILITY

# employee training and development

Our employees are at the core of everything we do, and we believe a diverse and creative workforce is absolutely essential for the long-term success and sustainability of our company. We care about our people and are committed to lifelong learning to help them reach their full potential. We nurture our talent through training and development programs, learning opportunities, and incentive rewards. At the same time, ensuring the safety and health of our employees is a top priority, and we recognize the benefits of supporting an optimal work-life balance for our entire team.

## NURTURING OUR PEOPLE

Owens Corning is committed to investing in the career growth of all of our people, and we work to develop new leaders from within the Company, across all levels and job roles. Each employee's development plan is unique and tailored to individual goals.

We believe lifelong learning is integral to career development, and we provide a diverse set of learning opportunities for our employees. In addition, we strive to build strong relationships with our employees. To help us understand individual perspectives and contributions, we actively engage with employees in a variety of ways, including one-on-one development discussions, town hall meetings and opinion surveys.

Owens Corning's first level of leadership directly manages a vast majority of our employees. These leaders' ability to lead, coach and develop their employees is instrumental to our ability to build a safe, productive and engaging workplace that delivers powerful results. Our People Leadership Fundamentals program is made up of four instructor-led workshops along with pre-work, on-the-job follow-up assignments and manager observation assessments. The program is designed to equip

our first-level leaders with the basic people leader skills required to effectively lead engaged teams at Owens Corning and ensure a common approach to people leadership.

## EMPLOYEE TRAINING AND DEVELOPMENT PROGRAMS

We understand that learning occurs in many ways, and we offer a variety of opportunities for our employees to further develop their skills, knowledge and experience – including formal education programs, self-guided activities, coaching, mentoring, social collaboration and community involvement. In addition, much learning and development take place informally through our everyday experiences, such as interactions with peers, leaders and other people.

Owens Corning has a Talent Development team within the human resources organization that is responsible for planning

**SOCIAL RESPONSIBILITY**

# employee training and development

and conducting employee training and also accountable for employee development offerings. Owens Corning's employee development offerings are multi-tiered with training at the corporate, business unit, plant and leadership levels. The majority of employees have a unique training plan based on job requirements, growth potential and skill set. We partner with our employees to design a program rich with content that provides the best opportunity for current and future success.

Our development programs target specific objectives for achieving higher levels of business performance, such as building a succession pipeline, increasing retention, improving our safety record and furthering our diversity objectives. Programs range from early career development and mid-career advancement to executive-level targeted training.

Owens Corning leverages the "70-20-10 framework" as a guiding principle for maximizing learning and development effectiveness. The model, created in the 1980s by three researchers and authors working with the Center for Creative Leadership, holds that individuals obtain 70% of their knowledge from job-related experiences, 20% from interactions with others, and 10% from formal educational and training events.

We track the progress of our learning and development activities across the Company through data recorded in our Learning Management System (LMS). Each facility has the responsibility to report participation in formal learning programs such as classes, eLearning courses and structured on-the-job activities.

Data include any training that was actually recorded in our LMS in 2016. The LMS contains data that primarily account for the formal learning conducted across the Company. Most of learning and development activities that take place in Owens Corning are considered to be informal learning, such as coaching, mentoring, social groups, projects, assignments and readings.

## Employee Training

Category	Hours of Training for Females	Hours of Training for Males	Total Number of Females Trained	Total Number of Males Trained	Average Hours of Training for Females	Average Hours of Training for Males
Officer	116	271	11	42	11	6
Manager	6,059	15,438	293	1,023	21	15
Staff	17,554	26,618	1,315	2,349	13	11
Primary	9,687	91,464	441	3,776	22	24
<b>TOTAL</b>	<b>33,415</b>	<b>133,791</b>	<b>2,060</b>	<b>7,190</b>	<b>16</b>	<b>19</b>

SOCIAL RESPONSIBILITY

# employee training and development

## EMPLOYEE PERFORMANCE AND CAREER DEVELOPMENT

At Owens Corning, we have a set of defined indicators or ratios to measure the progress and effectiveness of our training strategy. These include non-financial indicators, such as development hours, reduced turnover and percent of internal placements, as well as other human resources performance indicators. We do not have a company-wide, standardized process for tracking and reporting employee training at our plants. Therefore, the percentages shown in these tables include only staff employees.

## SUMMARY OF COMPENSATION AND BENEFITS

Our compensation philosophy is to effectively use all elements of compensation to align employees with the goals and objectives of the Company and its businesses, to meet and exceed desired performance objectives, by reinforcing behaviors necessary to achieve success. Our talent management strategy and employee development programs also are aligned with the Company's objectives and business strategy. To ensure that we have the right talent on our team, we look at business needs and then select individuals whose skills, knowledge and experience will best help us meet our business objectives.

Employee compensation is performance-driven, market-competitive and fair. We reward individual and collective contributions to our business' success through base and variable pay. Base salaries are determined by job responsibility levels, benchmarking data on market competitiveness, individual competencies and performance. A consistent philosophy in the design, application and administration of total compensation programs globally ensures equitable treatment for all employees, independent of gender, age or ethnicity.

Compensation at Owens Corning is designed to be competitive in the local labor market. Base pay rates are determined by job responsibility level, and are targeted at the market mean (average) of comparable companies with whom Owens Corning competes for talent. Base pay rates are reviewed and updated annually, based on the job performed and the local market wages for similar skills.

Most employees at the plant levels are eligible to participate in Owens Corning's Variable Incentive Plan (VIP), which is dependent on individual and plant results and is in addition to employee base pay. This compensation program lends to a competitive structure, supports our competitive goals, and results in above-average total cash compensation when a location performs well. Employees receive compensation from the Company that is proportionate to the impact of their role and contribution to the Company.

Percentage of total employees who received formal performance appraisals and reviews during the year

Male		Female	
2016	99.9%*	2016	100%
2015	99%	2015	99%
2014	99%	2014	99%

*\*Of the less than 1% of staff employees who did not receive reviews in 2016, they were either on leave during the year, were recently promoted to a staff role, or were hired after November 1 and aren't required to have a review until after three months of employment.*



**SOCIAL RESPONSIBILITY**

# employee training and development

In the United States, our compensation team has thoroughly analyzed all current and approved – but not yet enacted – minimum wage increases, and we are currently paying our people at or above all established minimum wage requirements. For Owens Corning, minimum wages are generally not relevant because the majority of our entry-level positions require more advanced skills or knowledge than jobs at which the minimum wage rate would typically apply.

## Benefits

Benefits for U.S. employees include a menu of health care options, healthy living resources and preventive care, life and disability protection, vacation, and work/life benefits such as adoption assistance and family leave programs. Employees worldwide now have access to employee assistance programs tailored for their country, including mental health care resources and work/life resources such as financial counseling, help with finding child care, elder care, or other family and life issues.

## Scholarships

Employees who have worked at Owens Corning for at least one year and are seeking a higher education degree are eligible to apply for the Owens Corning Employee Scholarship. Recipients are selected based on manager recommendation, statement of career goals, demonstrated leadership and past academic performance. Scholarships are awarded in amounts of \$2,000 or \$4,000 depending on the recipient's course load.

## Succession Planning

During our annual talent review, one of the metrics we use is related to assessing our depth of succession planning. Examples of questions we use during the evaluation process include:

- What capabilities are required in the future that we do not have today? Is it possible to grow these capabilities internally?
- Are there any retention concerns?
- What is the existing talent pipeline?

Our employees are evaluated and positioned into readiness timing bands for future roles and experiences within the organization. In tandem, a plan is developed for the growth of our employees to ensure the next steps are in place for their development.



## SOCIAL RESPONSIBILITY

# employee training and development

### TRANSITION ASSISTANCE PROGRAMS

Owens Corning offers on-site retirement planning workshops to help employees prepare for retirement. In addition, on an individual basis, career transition support for full-time global, staff, separated employees may be authorized by the human resources leader under the following circumstances:

- Closing of an operation, facility or business unit;
- Implementation of a restructuring program that results in job elimination; and
- Individual separations as a result of unsatisfactory performance or inadequate fit with Owens Corning's operating philosophy and culture.

Career transition services are not available to an employee who is terminated for cause, such as gross misconduct, dishonesty or a violation of the Company's business conduct policy.

Owens Corning partners with Wright Management, which offers a variety of career transition programs to meet individual candidate outplacement needs, either in-office or virtually, each focused on delivering effective outcomes. Individuals benefit from a personalized approach to career transition with flexible access, state-of-the-art technology (to facilitate interaction) and connections to critical resources. Additional solutions include life options, which assist individuals in planning for their next career phase, such as retirement or part-time work.

Owens Corning also offers employee assistance and work/life services programs for all employees globally, which continues for six months after employment ends with the Company.

Owens Corning grants up to 12 weeks of leave as specified by the Family and Medical Leave Act (FMLA). An additional leave of absence for personal reasons may be granted without pay when approved by the appropriate management. Maximum leave for personal reasons shall not exceed 60 days, unless approved by the Business Unit/Process Area Vice President of Human Resources. Personal reasons could include education, family issues, etc.

As parental leaves vary in accordance with both local laws and customs across the regions around the world where we operate, Owens Corning is unable to track retention rates of employees returning from parental leave. For example, in the United States, parental leave is indistinguishable from broader company reporting on FMLA.

In addition to compliance with local laws, Owens Corning is committed to providing flexibility when available to meet the needs of our employee's work/life balance.

Owens Corning supports our employees' wellness through all aspects of their career, from entry level to retirement. Over the past two years, Owens Corning has actively studied our retirement program, including participating in a retirement study that examined the Company's approach to retirement through a series of interviews with employees in various stages of their

## SOCIAL RESPONSIBILITY

# employee training and development

career. Based on this study and other initiatives, we are actively looking at different policies and ways we can improve our employees' transition to retirement, as well as succession planning.

### Flexible Work Arrangements

Flexible work arrangements are non-traditional work schedules that allow time to meet obligations outside the job. The goal is that both the employee and the Company will continue to meet their objectives, while allowing the Company to respond to an increasingly diverse, mobile and global workforce. Flexible work arrangements can be temporary or permanent. Here are some of the flexible work arrangements that we offer:

- **Part-Time Work:** work less than a full-time schedule;
- **Job Sharing:** A special form of part-time work where two employees share the responsibilities of one full-time job;
- **Flexplace:** work a full-time schedule, but for some portion of the work schedule the employee works at an off-site location;
- **Flextime:** work a full-time schedule in the office, but begin and end the day within guidelines determined by management, provided the person works certain core hours every day; and
- **Compressed Work Schedule:** perform a full-time job in fewer days than a customary work week; for example, working four longer work days rather than five.

A flexible work arrangement might be a combination of these options. If a flexible work arrangement is feasible the employee and manager can work together to develop the most appropriate schedule. The employee is not automatically entitled to a flexible work arrangement; the manager must authorize the arrangement. What is crucial is that the arrangement meets our customers' needs and does not cause undue stress for co-workers.

## LABOR RELATIONS

### Formal Agreements with Trade Unions

Approximately 65% of our employees are covered by collective bargaining agreements. This includes relationships with unions, work councils and employee associations around the world.

The specific language and scope of our labor agreements vary from site to site. All are structured to recognize the importance jointly placed upon health and safety as a guiding principle and core value of both Owens Corning and our workers. In all of our facilities, employees are trained to understand, appreciate and mitigate risk in the interest of their own safety and health, the safety and health of those around them, and of the organization overall. This work touches and involves every employee of Owens Corning globally.

SOCIAL RESPONSIBILITY

# employee training and development

All employees, both union and non-union, are encouraged and expected to be involved in and/or lead:

- Plant safety committees;
- Hazard recognition efforts (including nearly 700 individuals certified as specialists in our internal hazard recognition program);
- Risk control events, where risks are identified and action plans created to reduce overall risk;
- Safety training; and
- Safety inspections and observation process.

Our shared commitment is observable in the many health- and safety-related processes and procedures active within Owens Corning facilities, the caring demonstrated through and across all levels of the organization, and the world-class safety results produced by the collaborative efforts of our global community of safety leaders.

Percentage of employees covered by collective bargaining agreements, worldwide

	2012	2013	2014	2015	2016
Worldwide %	68	65	63	65	65

## Notice Periods for Operations Changes

Owens Corning prides itself on being a good corporate citizen and respects the rights of its employees, including the rights to exercise freedom of association and collective bargaining. We partner with suppliers to maintain the same philosophy.

The Company has a variety of methods that it uses to ensure that workers are kept informed of operations changes, including the global intranet site, email communications and leadership meetings with team members to communicate news.

Owens Corning provides at least the minimum notice required, which varies by local legislation and collective bargaining agreements in the regions where we operate.

In many jurisdictions, our union and self-represented employees enjoy similar notice periods by virtue of strong employee relations and labor practices, as well as applicable regulations.

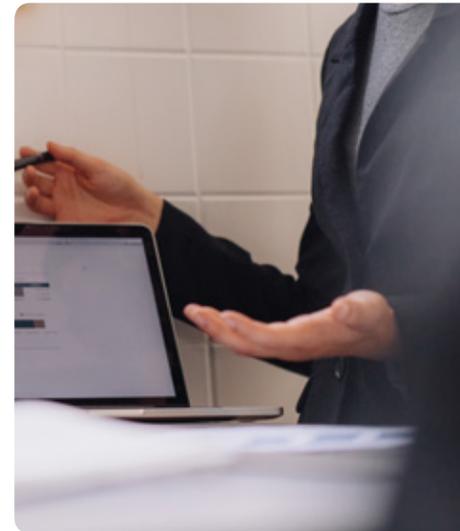
## SOCIAL RESPONSIBILITY

# employee training and development

## RECOGNIZING OUR PEOPLE

More than 200 people from around the world were nominated for Owens Corning's first Talent Awards in 2016. The Talent Awards were established to honor employees who help develop people and grow the business. Winners in eight categories have recruited and retained talent, promoted a diverse work environment, and identified ways to grow employees and the Company.

- The **Recruiter of Talent** award is given to employees who are actively involved in recruiting top talent for the Company, beyond their immediate openings, have a pipeline of talent referrals, and make talent assessment and selection a priority. The 2016 award was given to a Toledo Supply Chain team member who actively recruited talent and led employee referrals since 2012, with over a dozen hires in the local community.
- The **Early Career Advocate** is given to individuals for building relationships with college professors/career services and having a strong presence on campus through participation in recruiting activities and events. Strong assessment of early career talent, intern conversions to development programs, development and progression of Development Program participants and affinity group involvement are also recognized through this award. The 2016 award was given to a finance leader from the Starr, South Carolina, location who coached 13 supply chain, finance and sourcing development program participants and challenged them to lead a community engagement project.
- The **Developer of Talent** award is for those individuals who have demonstrated growth of an Owens Corning employee (new skills, knowledge and capabilities), and impact on creating or defining development experiences, protégés and development goals in talent management software. In 2016, the award was given to an operations manager in India who spends time training people in the Taloja and Thimmapur plants. He also is a champion of the People Leadership Fundamentals Program in India. He challenges his employees, many of whom have been promoted in the Company.
- The **Diversity and Inclusion Promoter** award is for increasing the representation, advancement, and inclusion of women, racially diverse minorities and LGBT, as well as promoting cultural diversity and diversity of thought. In 2016, the awardee was the plant manager at a China location that supports equal career development and encourages diversity. The percent of females at his plant is extremely high, with a female production leader. Additionally, his plant delivers strong performance, operates safely and efficiently and has a low turnover rate.





## SOCIAL RESPONSIBILITY

# diversity and inclusion

At Owens Corning, everyone is accountable for diversity and inclusion. We are committed to cultivating an inclusive work environment where people are valued, safe and respected, and where everyone looks forward to coming to work each day. Similar to other recognized models for diversity and inclusion, our efforts are focused on recruiting, retention, development, awareness and succession.

## STRATEGY AND APPROACH

Our success as a business is driven by our ability to attract and retain the most talented and highest-performing employees available globally. To achieve that objective, we are committed to being a company where opportunity for professional growth and success is determined by each employee's performance, regardless of personal attributes or other individual differences. All of our employees should be able to come to work each day knowing they will have an equal opportunity to reach their full potential with our company. By providing an environment where the most outstanding talent in the world feels welcomed, respected and valued for their contributions, we believe we can leverage the power of diverse experiences and perspectives to achieve strong business results and competitive advantage.

Four pillars guide our efforts:

- **Leadership Vision** – Create a global team environment worthy of our company and enhance the lives of our people.
- **Diversity Connections** – Drive awareness and build a sense of community and inclusion that benefit our employees, customers, suppliers, community and shareholders, and develop our corporate reputation.
- **Workforce Representation** – Attract and retain a workforce that enables us to better meet our customers' needs and market trends.
- **Recognition** – Leverage opportunities that lead to increased recognition of our diversity results, which we believe will help to reinforce and accelerate our progress.

## AFFINITY GROUPS

We recognize that certain groups have specific vulnerabilities and challenges that should be addressed. As a result, we have created the following affinity groups:

- **African American Resource Group (AARG)** – to advance excellence through attracting, acclimating, retaining and accelerating career growth, thus enhancing Owens Corning's business performance while leveraging the strength of a diverse workforce.
- **Gay, Lesbian, Bisexual, Transgender and Advocates (GLBTA)** – to achieve a work environment that is inclusive and safe, where people feel they can be fully engaged to create and problem-solve to their maximum potential and to be confident in a work environment where they will be fairly evaluated.
- **Owens Corning Multi-Cultural Network (OCMN)** – to fundamentally enhance the ability of our people to understand, embrace and leverage the multicultural differences that exist across our global organization.

## SOCIAL RESPONSIBILITY

# diversity and inclusion

- **Women's Information Network (WIN)** – a group of highly engaged, dedicated and compassionate professional women who are committed to attracting, retaining and developing outstanding women.
- **Connections** – to enrich the lives of our employees by partnering with those in career transition, while fostering personal and professional growth and promoting community involvement to attract and retain top talent.

Each group has an executive sponsor, leader and co-leader, and are growing in involvement and engagement among employees, both at the regional and international levels. In 2016, all of the groups increased in size as a result of greater participation in recruiting and employee referral efforts. Highlights for the year included company-wide training on unconscious bias, additional training for the executive team and a “boot camp” for our “diversity catalysts.”

Owens Corning  
Achieves

## PERFECT SCORE

on Corporate Equality Index

For the 13<sup>th</sup> time, Owens Corning received a perfect score of 100% on the Corporate Equality Index (CEI), a national benchmarking survey and report on corporate policies and practices related to lesbian, gay, bisexual and transgender (LGBT) workplace equality, administered by the Human Rights Campaign Foundation.

Joining the ranks of more than 500 major U.S. businesses who also earned top marks this year, the CEI rated 1,043 businesses in the report. Businesses were evaluated on LGBT-related policies and practices including non-discrimination workplace protections, domestic partner benefits, transgender-inclusive health care benefits, competency programs and public engagement with the LGBT community. Satisfying all of the CEI's criteria resulted in a 100% ranking and the designation as a Best Place to Work for LGBT Equality.

“Owens Corning is pleased to be recognized as an organization that fosters a safe, open and inclusive environment where our employees feel valued and respected. We recognize and understand the impact these factors have on our employees and their well-being,” said Daniel Smith, senior vice president of organization and administration at Owens Corning.

For more information on the Corporate Equality Index or a copy of the report, visit [www.hrc.org/cei](http://www.hrc.org/cei).

# diversity and inclusion

## SUSTAINABILITY IN ACTION



### 'Outsmarting' Unconscious Bias to Enhance Diversity and Inclusion

Owens Corning is dedicated to improving the diversity and inclusion of its workforce, creating a place where employees can share ideas and bring their full selves to work every day. Creating a truly inclusive workplace requires getting everyone to recognize each other's strengths and his or her own biases – both the ones that are apparent on the surface as well as the occurrence of unconscious bias.

To that end, in 2016, Owens Corning launched a company-wide unconscious bias training initiative, "Outsmart Your Unconscious Biases." Led by consultant Kathleen Nalty, the training sessions were intended to help Owens Corning employees become more aware of bias and develop strategies to overcome it.

Unconscious bias (aka implicit bias) is typically defined as unconscious attribution of particular qualities to a member of a certain group, despite conscious efforts to not allow such stereotypes to impact perceptions and decision-making. Nalty noted, as a type of unconscious bias, affinity bias is the tendency to favor people who have common interests over those who do not. She explained that going out of one's way to help a person with such similarities can be to the detriment of others, and cause the organization to miss out on a wider range of perspectives.

Owens Corning employees from around the globe participated in the event with more than 250 people attending in person, and many others watching the video conference from around the world. At the end of the session, participants were charged with creating an action plan and taking the message of unconscious bias back to their workplaces. Attendees also completed worksheets in order to identify one or two behavior changes that they would personally implement in order to make Owens Corning more inclusive for all employees.

"In the workplace and in everyday life, bias is hard to escape," said Gina Thompson, early career talent development and diversity leader. "By going through the training and becoming more aware of inherent biases, we can continue to make Owens Corning a diverse, inclusive and high-performing place for all employees." ■

# diversity and inclusion

## DIVERSITY METRICS

Workforce Composition (gender and age)

		2016	
Category	Position	Female	Male
Number of employees in minority groups by gender within employee categories	Managers	21	80
	Officers	--	7
	All other staff	105	195
	Primary	272	1,769
Number of employees in the age group <30 years by gender within employee categories	Managers	16	38
	Officers	--	--
	All other staff	200	261
	Primary	197	1,562
Number of employees in the age group 30-50 years by gender within employee categories	Managers	209	666
	Officers	9	19
	All other staff	582	1,059
	Primary	736	4,786
Number of employees in the age group >50 years by gender within employee categories	Managers	56	310
	Officers	2	22
	All other staff	304	597
	Primary	286	2,431

Workforce Composition (gender and country)

2016		
Country	Female	Male
Canada	53	377
United States	1,540	6,251
Argentina	--	1
Brazil	32	520
Mexico	307	1,238
Belgium	30	84
Czech Republic	--	1
France	99	582
Germany	1	10
Italy	18	272
Poland	--	1
Russia	87	236
Slovakia	--	2
Spain	25	38
The Netherlands	14	151
United Kingdom	10	80
China	389	1,008
Hong Kong	--	2
India	10	677
Japan	6	17
Korea	18	314
Singapore	6	38
Thailand	2	2
Taiwan	--	1
Switzerland	1	--

Employees from the our latest two acquisitions are not included in the above metrics, as Owens Corning is still in the process of integrating their personnel records with our official employee database.

# diversity and inclusion

Number of employees joining the organization (for the first time) during the year\*

Total Employees	2015	2016
	1,434	2,421
By Age Group	2015	2016
<30 Years	729	1,080
30 to 50 Years	647	1,140
>50 Years	58	82
No Age Data Available**	—	119
By Gender	2015	2016
Female	297	524
Male	1,137	1,897
By Region	2015	2016
North America	483	1,405
Latin America	522	425
European Union	135	146
Asia Pacific	294	445

Number of employees leaving employment during the year

Total Employees	2015	2016
	2,060	2,373
By Age Group	2015	2016
<30 Years	595	706
30 to 50 Years	965	981
>50 Years	500	567
No Age Data Available**	—	119
By Gender	2015	2016
Female	359	533
Male	1,701	1840
By Region	2015	2016
North America	1,077	1,346
Latin America	437	434
European Union	93	110
Asia Pacific	453	483

\*In our terminology, strictly new hire does not include rehires, restated employees or acquired employees through InterWrap

\*\*No age data available for InterWrap employees who left for various voluntary and involuntary reasons

# diversity and inclusion

## WOMEN IN LEADERSHIP

Owens Corning is committed to increasing the number of women in leadership roles. In addition to 18% of our total workforce being women, as of the end of 2016, the management level is 22% women. Recent initiatives include:

- Targeted recruiting through professional associations;
- Employee referral campaigns with female leaders;
- Expansion of the Women's Information Network (WIN) to India, Europe and our Granville, Ohio, Science & Technology Center site;
- Exploring options for a flexible work environment;
- Establishing meaningful mentoring relationships between the Executive Committee and WIN affinity group;
- Leadership training and professional development;
- Support and involvement from female Directors on Owens Corning's Board of Directors; and
- Luncheon series with Executive Committee members.

## EQUAL REMUNERATION

One of the most important characteristics of a truly diverse and inclusive culture is that women and men receive equal remuneration for work of equal value. At Owens Corning, employee compensation is performance-driven, market-competitive and fair. We reward both individual and collective contributions to our business' success through base and variable pay. Base salaries are determined by job responsibility level, benchmarking data on market competitiveness, individual competencies and performance.

A consistent philosophy in the design, application and administration of total compensation programs globally ensures equitable treatment for all employees independent of gender, age or ethnicity. Employees receive compensation from the Company that is proportionate to the impact of role and contribution the individual makes to the Company, ensuring fairness in our programs.

Read more about [Diversity at Owens Corning](#).



## SOCIAL RESPONSIBILITY

# healthy living

Owens Corning is dedicated to the wellness of our employees, their families and the communities where we operate. We promote the health and well-being of employees by providing safe working conditions, flexible work arrangements and more. Our Healthy Living platform has six pillars: Know Your Numbers (for preventive health), Healthy Mind, Physical Activity, Nutrition, Tobacco-Free and Financial Health. Financial Health became the sixth pillar in 2016. We also began the global expansion of our Healthy Living platform with the establishment of regional wellness leadership councils in Latin American, Europe and Asia Pacific.

## STRATEGY AND APPROACH

Our Healthy Living platform is a total employee well-being solution that drives sustainable, long-term behavior change, increases productivity and strengthens workforce cultures by providing daily engagement tools, personalized micro learning and targeted communications. Our regional wellness leadership councils direct our Global Wellness Strategy and guide teams focused on our commitment to wellness throughout our global organization.

The platform combines rewards and incentives, coaching, interactive health risk assessment and biometric screenings in one solution, and is locally driven with the support of tools and resources through Virgin Pulse, our new wellness partner as of 2017. The goal is for all employees to benefit from putting a stronger focus on our everyday physical, emotional, financial and mental well-being – resulting in improved health, productivity and happiness.

As part of the program, Owens Corning commissioned six aspiration teams that consist of key leaders from around the globe, with representation from all of the businesses and corporate functional groups. Each team supports one of the six wellness pillars:

- 1. Know Your Numbers.** Our aspiration is that all Owens Corning employees and their families will obtain their age-appropriate preventive health screenings and immunizations annually and understand the health consequences related to their personal biometric health numbers. This includes deploying a comprehensive health screening program for all employees.
- 2. Healthy Mind.** Our aspiration is that all Owens Corning employees enjoy meaningful work and life experiences in an environment that helps them flourish. This aspiration is largely driven by our leaders, who foster a supportive and inspiring workplace.



**SOCIAL RESPONSIBILITY**

# healthy living

- 3. Physical Activity.** Our aspiration is that all Owens Corning employees and their families are active and take action to counter the negative health consequences of low physical activity and lack of movement on and off the job. This includes educating employees about physical activity and ensuring they have access to tools and resources that promote daily movement.
- 4. Nutrition.** We aspire to eliminate key health risks to employees and their families that result from poor nutritional education and unhealthy food choices. This team is hard at work to ensure employees are educated about nutrition-related health risks and have healthy options available to them at their work sites.
- 5. Tobacco-Free.** We aspire to be a company where our people live tobacco-free. We have successfully obtained a “tobacco-free” commitment date from every Owens Corning facility around the globe, and a pledge that all will be tobacco-free by the end of 2018. Many of our employees have already quit smoking using resources available through our wellness initiatives.
- 6. Financial Health.** We aspire to proactively help our employees confidently manage their financial lives today while preparing for the future and anything unexpected. This includes increasing awareness of current financial benefits, planning tools and other resources.

These teams have made great strides over the last year. Under their guidance, all Owens Corning sites have worked on establishing their local wellness teams and identifying a site-based Healthy Living Champion to drive initiatives. The teams propose goals and strategies for their particular wellness pillar. Our wellness leadership councils review the proposals, integrate and prioritize solutions across each pillar, and ensure the proper resourcing for the success of our wellness strategy. In addition, we have implemented a system to measure change and address gaps, as needed.

Recognizing that a large portion of our employees are working in plants and the field, we’re engaging these offline employees through mobile devices and apps that allow employees to track activity and other wellness metrics.

This strategy and our initiatives align with our commitment to **United Nations Sustainable Development Goal #3, Good Health and Well-being.**



## SOCIAL RESPONSIBILITY

# healthy living

## 6 Pillars of Owens Corning's Healthy Living Program



### Protecting Occupational Health

Consistent with our safety and health compliance responsibilities and our commitment to wellness, we conduct periodic Occupational Health (OH) surveys of our facilities, with a focus on identifying and eliminating any risks associated with chronic illnesses. Additional OH surveys are conducted as required by specific projects or as defined by our change management processes. We also have launched specific project teams around issues such as the Zika virus. Regular reviews of facility status, monitoring developing events and deploying necessary resources have been key to avoiding any impact to our business globally.

In addition, Owens Corning has developed and implemented systems to ensure that occupational exposure potentials are recognized, understood and effectively mitigated in our global operations. As a result, no worker groups have a high incidence of occupational disease.

### 2016 WELLNESS HIGHLIGHTS

#### New Employee Health Clinic and Fitness Center Open at World Headquarters

In early 2016, we opened an employee health clinic and fitness center inside our world headquarters in downtown Toledo, Ohio. The health center is open to Owens Corning employees and eligible dependents and offers a number of services, including basic primary care, lab testing, workplace physicals and physical therapy. The full-service fitness center is available to all Owens Corning employees and has a variety of exercise equipment, group exercise classes and personalized fitness coaching.

SOCIAL RESPONSIBILITY

## healthy living

"The new clinic and fitness center support our commitment to comprehensively addressing the health and wellness of our employees," said Dr. Brian Linder, M.D., corporate medical director at Owens Corning. "We're giving our Toledo-area employees easy access to primary and preventive care, and also providing them with resources to help them live healthier lives. Dr. David Knieriem, M.D., our new, onsite physician, offers quality, patient-focused care in an environment that provides the time to build rapport and trust."

The new facilities are part of a three-year agreement with ProMedica, a locally owned, nonprofit health system serving northwest Ohio and southeast Michigan.

### Global Activity Challenge Creates Healthy Competition

For the last three years, Owens Corning employees across the globe have engaged in an annual eight-week challenge to log at least 10,000 steps per day, or 70,000 steps per week. Using fitness trackers and an online system, employees are responsible for tracking and entering their steps each day. In 2016, nearly a quarter of Owens Corning employees participated in the challenge. During the challenge, employees motivated each other by sharing updates and photos of their activity with fellow participants through the Owens Corning Healthy Living Facebook Group. At the end of each week, we randomly selected one employee who achieved the goal to receive a \$500 prize. At the end of the challenge, we awarded a grand prize of \$10,000 to one lucky winner.

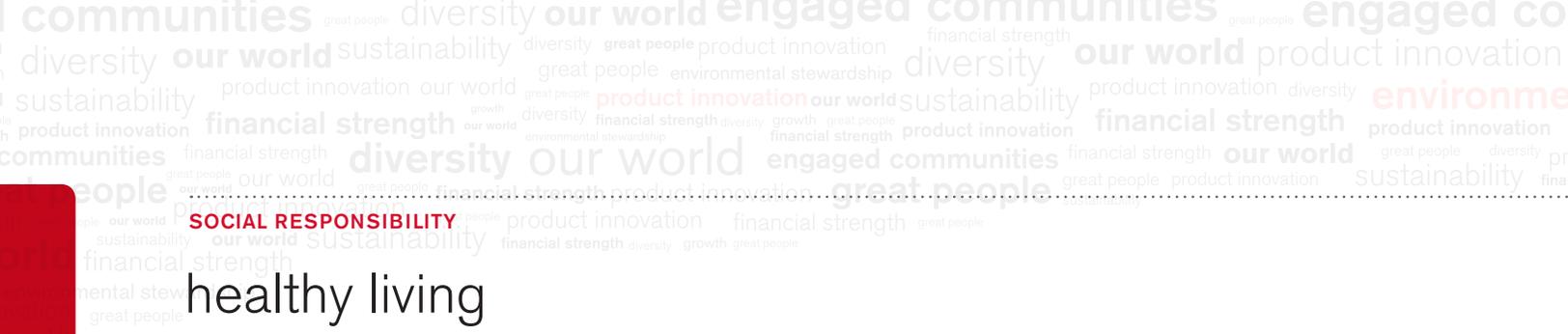
Creating Healthy Competition

# 10,000 STEPS

In 2016, nearly a quarter of employees participated in an eight-week challenge to log at least 10,000 steps per day

### Improving Our Work/Life Resources

Through our Healthy Minds work, it was recognized that reduced stress and better sleep habits should be areas of emphasis for our employees. Our Employee Assistance Program (EAP) offers assistance to employees, dependents and household members to achieve personal results with challenges that could affect health, relationships or job effectiveness and safety. The program is professional, confidential and free for up to six face-to-face or telephonic sessions.



**SOCIAL RESPONSIBILITY**

# healthy living

Through this program, we have helped people achieve:

- Work/life balance (stress)
- Fulfilling relationships (communication)
- Healthy living (self-confidence)
- Recovery (addiction)
- Sound mental health (depression, anxiety)
- Support for grief, loss and trauma
- Personal and professional success

The EAP can help head off an issue before it becomes a problem. It can also help manage life events on topics such as:

- Adoption
- Financial stability
- Home repair
- Child care, summer camps, elder care
- Education programs (school, GED, college, vocational)
- Moving and relocation services
- Community services and support groups

In 2016, these EAP and other work/life resources were implemented globally.

## SUSTAINABILITY IN ACTION



### Gastonia, N.C., Advanced Manufacturing Plant Receives Recognition for Commitment to Wellness

In 2016, Owens Corning employees around the globe demonstrated a strong commitment to wellness. For example, the Gastonia, North Carolina, advanced manufacturing plant already has a strong program in place despite just starting operations in mid-2016.

Led by human resources leader Julie Powers and plant wellness champion Lacy Kastel, the Gastonia wellness team has quickly grown through its partnership with Healthy Gaston. To promote wellness at work, the plant offers an on-site fitness center available to employees on all shifts. There is also a focus on fresh and healthy food options in vending machines. In addition, the plant promoted physical activity by creating employee softball and kickball teams as well as participating in the Susan G. Komen Race for the Cure.

For these efforts, the Gastonia plant received bronze-level recognition in 2016 by Healthy Gaston, a program developed by the Gaston Community Healthcare Commission aimed at improving the overall health of Gaston County.

With advanced automation and networking technology, the new Gastonia plant supports the Company's participation in the growing non-wovens glass fiber market, particularly the North American construction segment. ■



## SOCIAL RESPONSIBILITY

# living safely

At Owens Corning, our commitment to safety is unconditional, and our company-wide stance on safety reminds our people to live safely all the time – at work, at home and at play. We believe all accidents are preventable, and our goal is zero injuries – that no one is injured in any of our facilities globally.

### STRATEGY AND APPROACH

Safety is a critical measure of our ability to execute. Our safety strategy is based on identifying and reducing risk before an injury occurs, by eliminating or properly controlling any hazards. We focus on engaging our people in our safety processes and a fundamental caring for each other. We utilize various approaches, from safety committees and broad-based safety training to specialized hazard recognition and control programs and behavior-based safety processes, to improve safety performance. We leverage the learning that occurs from incidents and share that learning across the Company. We teach employees to follow safety practices and regularly conduct training programs for all our employees specific to their risk exposure. Our Chief Sustainability Officer leads these initiatives and is responsible for the Company's compliance with environmental, safety, health and sustainability matters.

Owens Corning has developed and implemented systems to ensure that potential occupational exposure is recognized, understood and effectively mitigated in our global operations. Programmatically, this is achieved via a comprehensive and rigorous focus on exposure control and a classic approach to employee health surveillance screening where appropriate. As a result, there are no worker groups with high incidence of occupational disease.

“Living Safely” is one of Owens Corning's six Company values. It goes beyond safety in the workplace to home and community. We encourage our employees to carry the safety knowledge they gain at work into their personal lives. Our safety professionals collaborate with other organizations to extend best practices.

### Total Productive Maintenance

Owens Corning is committed to an operational focus on total productive maintenance (TPM) to achieve zero losses (waste), zero accidents and zero downtime. The methodology also focuses on developing our people to create ownership for their machines and processes, in turn ensuring that basic operating conditions are safe, stable and predictable. While this process can be time-consuming and requires effort and investment to implement, our employees are trained to understand the safety and efficiency benefits TPM provides when executed properly.

# living safely

## Safety Techniques

We continuously strive to reduce incident rates by implementing techniques, essential trainings and other programs.

Some of our safety techniques include:

- **Linking Initiatives to Tangible Measures:** We avoid incidents by applying leanings from previous incidents. In than 1,000 incidents were reported that included near-miss and recordable injuries. Thousands of hazards were identified through hazard hunts, employee safety committee activities assessment processes at a facility level. We immediately action against incidents and hazards through corporate-level assessments, external Voluntary Protection Programs (VPP) and application of various corporate standards to reduce injury risk across the organization.
- **Providing Personal Protective Equipment (PPE):** The application of PPE is determined based on our corporate PPE standards and task-related risk assessments. The need and effectiveness of PPE are also based on the input provided by incident root cause analysis and corrective actions taken. In 2013, an initiative was launched with core safety suppliers to Owens Corning that resulted in a joint effort to train facilities on specific PPE requirements and alternatives for proper protection. We continue to work closely with our PPE safety suppliers to provide support to our facilities. This effort includes specific, individual fit testing for hearing protection in order to provide the best solution for employees. We utilize contemporary resources such as point-of-use vending machines to make PPE available when and where needed, and to ensure employees understand our usage of PPE. While PPE offers a low level of hazard control, it is an important element of protecting our employees where engineering controls are not available.

## Employee Health and Safety Committees

We have a number of environmental, health and safety (EHS) initiatives underway at any time, and we encourage employees to be involved in those that they are interested in or have direct impact on their work environment. These initiatives include oversight safety committees, behavior-based safety observation teams, hazard recognition teams, "Critical Six" program teams, human performance improvement teams, green team (environmental) and overall employee wellness teams. Almost all of our employees participate in one or more of these organized committees.

## Safety Programs

### 'CRITICAL SIX'

1. Lock/Tag/Try
2. Confined Space
3. Machine Guarding
4. Powered Industrial Vehicles
5. Working from Heights
6. Automobile Safety

SOCIAL RESPONSIBILITY

# living safely

## Summary of Safety Training

EHS training is conducted at all Owens Corning facilities on a regular basis. Each facility is responsible for developing an annual training matrix to ensure that all employees receive the required training. Through our corporate intranet, our facilities utilize a common web-based training platform for standard training modules. This system is fully integrated with our talent management system and provides the ability to customize learning plans for individuals.

Safety training begins with new-hire training and continues on a regular basis with daily safety huddles, scheduled monthly meetings and annual refresher courses. Suppliers of safety equipment also support our training efforts by providing specific product or process training. For major focused programs, training is designed and deployed by corporate-level safety leadership along with plant personnel. At times, we may contract with capable business partners to provide training on our behalf.

Owens Corning continues in the deployment of a safety training strategy that migrates our core training to competency-based, in addition to presentation and awareness training. This includes certification in key programs and ensures that we are growing our talent by providing our employees and EHS community with exciting skill-building training.

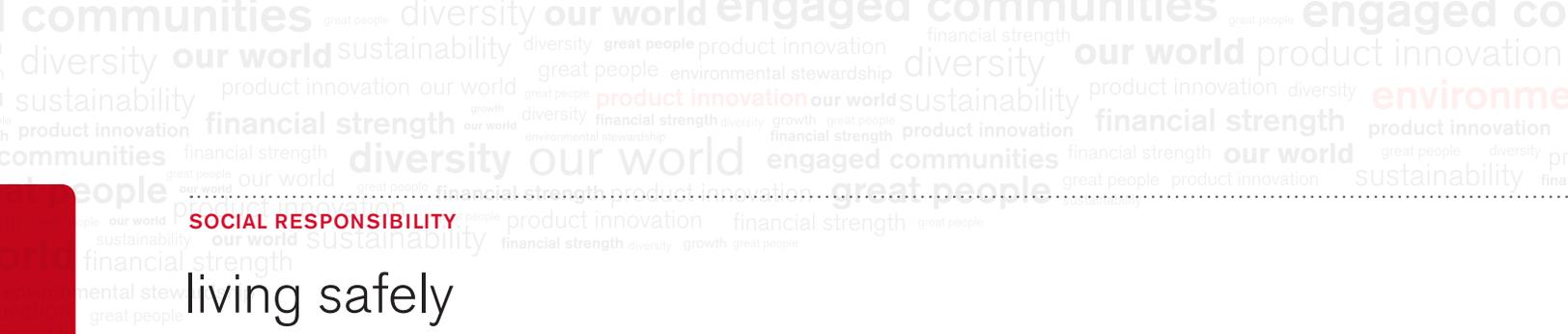
In 2016, we had over 55,000 employee enrollments in various safety-related training classes. Over 350 sales personnel also complete this training on a monthly basis. Training tailored specifically to driving safety is provided to all of our fleet drivers each month by an outside vendor. Attendance at driving safety training is tracked to ensure 100% compliance.

For continued growth and development of our global EHS professionals and safety program administrators, we hold monthly EHS Skill Building LiveMeeting events. These 1-hour sessions allow our EHS leaders to gain additional, practical, state-of-the-art knowledge on specific EHS topics. Participants can download 10 key learnings from each event to share with others. Sessions are offered at various times of the day and week to cover all time zones worldwide. Additionally, in late 2016, we offered an EHS college at our Granville, Ohio, facility. Over a three-week period, participants received in-depth training on topics such as confined space, lock-tag-try, proper use of fall protection, ergonomics, human performance improvement (HPI), incident investigation and how to conduct effective presentations. We plan to continue with this program twice a year beginning in 2017.









## SOCIAL RESPONSIBILITY

# living safely

### SUSTAINABILITY IN ACTION — CONTINUED

## Hazard Recognition and Control Training Move Company Closer to Zero Injuries

actions generated by their inspections. This version incorporates techniques and methodology taught by the Toledo Museum of Art in a course called Visual Literacy. The museum originally designed the course to teach people to “see” and appreciate what’s in front of them – in the Museum’s case, different types of art. Owens Corning transferred these techniques to help employees “see” and appreciate hazards that are in front of them in their everyday work environment.

The program continues to be successful in reducing the number of safety incidents at Owens Corning facilities. For example, Roofing reduced its recordable incident rate by approximately 40% in 2016 compared with 2015, according to Bob Marks, vice president of operations for Roofing.

“The HRC process has been a useful tool in our drive to zero injuries,” said Marks. “Improving the skill level of our employees in recognizing hazards is an important step. The road to zero requires active and passionate involvement by all of our employees.” ■

**In 2016, the HRC program hit a milestone with 700 certified specialists and over 50 certified trainers.**

# living safely

## SUSTAINABILITY IN ACTION



### InterWrap Focuses on 'Critical Six' Safety Issues

Acquired in mid-2016, InterWrap has already proven to be a key addition to the Owens Corning business portfolio, helping expand the Company's position in the Roofing Components industry. During the integration process, safety has been one of the main areas of focus. While InterWrap already had a strong focus on safety, Owens Corning enhancements are helping to take that commitment to the next level.

In fact, since the acquisition closed, legacy InterWrap facilities have reduced injuries by more than 60%.

Chris Preslock, director of EHS for Roofing, who had a major role in the integration, said there are four primary reasons for the safety progress since the acquisition – a high level of employee engagement, an existing process focused on hazard recognition and mitigation, an increased sense of belonging, and significant capital investments in safety.

“What's been particularly impressive and exciting is the engagement level we've seen from former InterWrap (now Owens Corning) employees,” said Preslock. “They've really embraced the Owens Corning safety processes and created the teams necessary to drive significant change.”

Owens Corning began by working with InterWrap employees to implement our “Critical Six” program, which is focused on

minimizing or eliminating life-altering injuries from six of the highest-risk causes. The Critical Six elements are: **Lock/Tag/Try**, for controlling machine energy; **Confined Space**; **Machine Guarding**; **Powered Industrial Vehicles**; **Working from Heights**; and **Automobile Safety**.

In addition to continuing to focus on the Critical Six in 2017, Owens Corning will be focused on building a sustainable safety culture across all InterWrap facilities and teams. For example, our Behavior-Based Safety program has proven to be highly effective in driving change due to peer-to-peer interaction and accountability.

“It's everyone's responsibility to stay safe. The teams have to work collaboratively to identify issues and solve problems together,” said Preslock. “Safety can sometimes be seen as a top-down approach, but it's critical that all employees embrace the culture and work to understand, learn and implement safety measures and behaviors.” ■



SOCIAL RESPONSIBILITY

# living safely

In 2016, the Brookville, Indiana, Roofing and Asphalt plants passed its three-year recertification for the OSHA-sponsored Voluntary Protection Programs (VPP). Recertification requires a plant to maintain and improve its worker safety and health programs following initial certification. In May 2016, the Indiana Department of Labor announced that the Brookville plant was chosen to receive the Volunteer STAR (Safety Through Accountability and Recognition) award, the state's highest honor for workplace safety and health. Owens Corning has several sites that have achieved OSHA VPP Star Status including: Brookville Roofing, Linnton Asphalt, Denver Asphalt, Tiffin OEM, Cleveland OEM, Houston Roofing and Asphalt, Springfield OEM, Grove City OEM, Oklahoma City Insulation, Medina Roofing and Asphalt, and Houston Roofing and Asphalt.

The Nephi, Utah, plant, which manufactures loosefill insulation, received the Utah Safety Council Award of Merit in 2015 and 2016. The EHS leader at Nephi also received the 2014 Robert F. Parenti Award for individual achievement in safety from the Utah Safety Council. The plant also received a safety excellence award from the Utah Manufacturing Association, which recognizes businesses that go above and beyond to create a safe work environment. In 2015 the plant received Utah's Sustainable Business Award – *Utah Business Magazine*.

We are proud to be among several leading companies that have banned the use of cell phones by the driver of a vehicle to conduct company business. We have completed our fourth year under this policy and remain even more convinced that we are a safer company as a result. This is a great example of our company's passion to identify risk in advance of injury and take action to prevent it. We are addressing this issue nationwide in the U.S. in our role on the board of the National Safety Council.

## OUR GOAL

Zero Injuries

## SOCIAL RESPONSIBILITY

# living safely



### Summary of Risk Assessment Activities

Thoroughly investigating, reporting and tracking all incidents helps us improve our performance. We consolidate all recordable injuries, first-aid treatments and significant near-miss events at the corporate level, and the data are analyzed with respect to incident characteristics and trends. This analysis is also used to formulate the topics in our Hazard Recognition and Control training and to develop effective Leading Indicators of risks and conditions that have the potential to lead to injuries. Collecting the data each month provides visibility to the changing level of risk and gives local leadership the opportunity to intervene and reduce that risk before an incident occurs.

Leading Indicator metrics at Owens Corning fall into one of four functional areas:

- Human Resources
- Operations
- Maintenance
- Safety

The respective functional leaders at each plant are responsible for populating the data and documenting their action plans for any elevated levels of risk identified. The Plant Leader owns the execution of this process and ensures its accurate completion each month, as well as the implementation of appropriate actions to reduce risk. Based on what we learn, we regularly review and update the metrics and scoring system.

## SOCIAL RESPONSIBILITY

# living safely

### **INJURY RATE, OCCUPATIONAL DISEASES AND LOST-WORKDAY RATES**

Our Recordable Incident Rate in 2016 was a modest improvement from 2015 and 85% below the industry average as reported by the U.S. Bureau of Labor Statistics for 2015 (the most recent data available). While we are not yet satisfied with this performance, we have registered a significant reduction in the severity of the incidents, as measured by the number of injuries requiring lost time or restricted work, and the number of lost and restricted workdays. The Combined Occupational Disability Index (CODI) Rate improved 30% for the year (0.30 in 2016 compared with 0.43 in 2015).

The number of recordable injuries slightly increased from 2015 to 2016. This increase takes into account the addition of seven new roofing component facilities from our InterWrap acquisition in mid-April 2016. Since 2001, the number of recordable injuries has been reduced by approximately 94%.

Of our global facilities, 63% (76 facilities) were injury-free in 2016; 21 of our sites have been free of recordable injuries for five years or more; and 23 of our sites have logged over 1 million recordable-injury-free man-hours.

All incidents, including recordable injuries, first-aid treatments and near-miss events, are subjected to a detailed root-cause analysis in consultation with an occupational health and safety

specialist, and the “Lessons Learned” are shared throughout the organization. The affected employee is encouraged to take part in both the incident investigation and the review process.

We ensure third-party certification when so required by our customers. This typically applies to 30% of our facilities. The global safety and environmental organization verifies and documents the status of management systems during scheduled audits. Once assessments are completed, reports are published and items identified for improvement are incorporated into the facility improvement plan. If any critical items are identified in the process, they are directed to the Vice President of Operations, Sustainability and EHS for further action.

With respect to internal verification of industrial health, safety and well-being, our regional leaders are expected to conduct periodic plant inspections as well as provide support and growth opportunities to each of their plants. In some cases, regional leaders cross divisional lines to help eliminate hazards. Owens Corning also operates a corporate EHS assessment department, which thoroughly reviews EHS processes at every site at least once every 24 months.

**63%** OF OUR GLOBAL FACILITIES  
were injury-free in 2016

**SOCIAL RESPONSIBILITY**

# living safely

EMPLOYEE REGIONAL SAFETY STATISTICS						
Region	Metric	2012	2013	2014	2015	2016
<b>North America</b>	Number of Injuries	56	59	74	59	55
	Total Man-Hours	21,040,672	22,088,821	21,632,095	22,067,784	22,289,543
	Number LWD Cases	17	30	30	32	28
	LWIR <sup>1</sup>	0.16	0.27	0.28	0.29	0.25
	LTIFR <sup>2</sup>	0.81	1.36	1.39	1.45	1.26
	RIR <sup>3</sup>	0.53	0.53	0.68	0.53	0.49
	Fatalities	0	0	0	0	0
	Number of Female EEs Injured	9	9	12	12	8
	Female EE Injury Rate	0.09	0.08	0.11	0.11	0.07
	Number of Male EEs Injured	45	49	61	44	48
	Male EE Injury Rate	0.43	0.44	0.56	0.40	0.43
	Number of EEs Injured No Gender Specified	2	1	1	3	0
	No Gender Specified EE Injury Rate	0.02	0.01	0.01	0.03	0
	LWD Cases Female EEs	3	5	4	9	6
	LWD Rate Female EE	0.03	0.05	0.04	0.08	0.05
	LWD Cases Male EEs	13	25	26	21	22
	LWD Rate Male EE	0.12	0.23	0.24	0.19	0.20
	LWD Cases No Gender Specified	1	0	0	2	0
	LWD Rate No Gender Specified	0.01	0	0	0.02	0
	Occupational Disease Case Female	0	0	0	0	0
	Occupational Disease Rate Female	0	0	0	0	0
	Occupational Disease Case Male	0	0	2	2	1
	Occupational Disease Rate Male	0	0	0.02	0.02	0.01
<b>Asia Pacific</b>	Number of Injuries	10	7	8	8	18
	Total Man-Hours	7,195,136	6,973,776	6,059,394	6,053,150	9,095,488
	Number LWD Cases	8	5	7	4	5
	LWIR <sup>1</sup>	0.22	0.14	0.23	0.13	0.11
	LTIFR <sup>2</sup>	1.11	0.72	1.16	0.66	0.55
	RIR <sup>3</sup>	0.28	0.20	0.26	0.26	0.40
	Fatalities	0	0	0	0	0
	Number of Female EEs Injured	2	2	1	0	1
	Female EE Injury Rate	0.06	0.06	0.03	0	0.02
	Number of Male EEs Injured	6	5	5	8	10
	Male EE Injury Rate	0.17	0.14	0.17	0.26	0.22
	Number of EEs Injured No Gender Specified	2	0	2	0	6
	No Gender Specified EE Injury Rate	0.06	0	0.07	0	0.13
	LWD Cases Female EEs	1	2	1	0	1
	LWD Rate Female EE	0.03	0.06	0.03	0	0.02
	LWD Cases Male EEs	5	3	4	4	3
	LWD Rate Male EE	0.14	0.09	0.13	0.13	0.07
	LWD Cases No Gender Specified	2	0	2	0	1
	LWD Rate No Gender Specified	0.06	0	0.07	0	0.02

**SOCIAL RESPONSIBILITY**

# living safely

Region	Metric	2012	2013	2014	2015	2016
<b>Europe</b>	Number of Injuries	8	11	8	14	14
	Total Man-Hours	3,422,277	3,217,157	3,111,340	2,616,036	3,196,333
	Number LWD Cases	5	9	4	12	11
	LWIR <sup>1</sup>	0.29	0.56	0.26	0.92	0.69
	LTIFR <sup>2</sup>	1.46	2.80	1.29	4.59	3.44
	RIR <sup>3</sup>	0.47	0.68	0.51	1.07	0.88
	Fatalities	0	0	0	0	0
	Number of Female EEs Injured	3	0	2	2	2
	Female EE Injury Rate	0.18	0	0.13	0.15	0.13
	Number of Male EEs Injured	5	11	6	12	12
	Male EE Injury Rate	0.29	0.68	0.39	0.92	0.75
	LWD Cases Female EEs	3	0	1	2	2
	LWD Rate Female EE	0.18	0	0.06	0.15	0.13
	LWD Cases Male EEs	2	9	3	10	9
	LWD Rate Male EE	0.12	0.56	0.19	0.76	0.56
<b>Latin America (South America)</b>	Number of Injuries	2	2	0	3	3
	Total Man-Hours	1,161,467	1,135,862	1,112,313	1,316,153	1,278,027
	Number LWD Cases	2	0	0	2	2
	LWIR <sup>1</sup>	0.34	0	0	0.30	0.31
	LTIFR <sup>2</sup>	1.72	0	0	1.52	1.56
	RIR <sup>3</sup>	0.34	0.35	0	0.46	0.47
	Fatalities	0	0	0	0	0
	Number of Female EEs Injured	0	0	0	0	0
	Female EE Injury Rate	0	0	0	0	0
	Number of Male EEs Injured	2	2	0	3	3
	Male EE Injury Rate	0.34	0.35	0	0.46	0.47
	LWD Cases Female EEs	0	0	0	0	0
	LWD Rate Female EE	0	0	0	0	0
	LWD Cases Male EEs	2	0	0	2	2
	LWD Rate Male EE	0.34	0	0	0.30	0.31

<sup>1</sup>LWIR – (Lost Work Day Injury Rate): Lost Work Day Cases X 200,000 / Total Man-Hours

<sup>2</sup>LTIFR – (Lost Time Injuries Frequency Rate): Lost Work Day Cases X 1,000,000 / Total Man-Hours

<sup>3</sup>RIR – (Recordable Incident Rate): Number of Injuries X 200,000 / Total Man-Hours

**SOCIAL RESPONSIBILITY**

# living safely

Owens Corning is committed to the safety of all individuals working for us – whether they are direct employees or those we have contracted with to complete services at our facilities. As a company, we have developed an objective to deliver all projects with zero incidents and a significant reduction in our RIR. Some of the primary deliverables for this goal are to develop consistent reporting including lessons learned on events such as first aids, common new contractor prequalification, and utilizing standard planning tools with embedded monitoring mechanisms at all events.

CONTRACTOR SAFETY STATISTICS						
Business	Metric	2012	2013	2014	2015	2016
<b>Building Materials Asia Pacific</b>	Recordables	0	0	0	0	0
	Total Man-Hours	289,517	268,926	97,647	122,539	128,788
	Number LWD Cases	0	0	0	0	0
	LWIR <sup>1</sup>	0	0.00	0.00	0.00	0.00
	RIR <sup>2</sup>	0.00	0.00	0.00	0.00	0.00
	Fatalities	0	0	0	0	0
	Fatalities	0	0	0	0	0
<b>Composites</b>	Recordables	0	0	2	1	4
	Total Man-Hours	1,810,761	314,741	500,762	977,116	675,226
	Number LWD Cases	0	0	1	0	0
	LWIR <sup>1</sup>	0	0.00	0.40	0.00	0.00
	RIR <sup>2</sup>	0.00	0.00	0.80	0.20	1.18
	Fatalities	0	0	0	0	0
	LWD Cases Male EEs					22
<b>Insulation</b>	Recordables	1	1	0	4	2
	Total Man-Hours	178,178	230,663	81,237	324,752	571,739
	Number LWD Cases	0	0	0	0	0
	LWIR <sup>1</sup>	0.00	0.00	0.00	0.00	0.00
	RIR <sup>2</sup>	1.12	.87	0.00	2.46	0.70
	Fatalities	0	0	0	0	0

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# living safely

Region	Metric	2012	2013	2014	2015	2016
<b>Roofing</b>	Recordables	0	4	0	0	1
	Total Man-Hours	87,104	274,200	128,938	137,307	185,498
	Number LWD Cases	0	2	0	0	0
	LWIR <sup>1</sup>	0	1.46	0.00	0.00	0.00
	RIR <sup>2</sup>	0.00	2.92	0.00	0.00	1.08
	Fatalities	0	0	0	0	0
<b>All</b>	Recordables	1	5	2	5	7
	Total Man-Hours	2,365,560	1,088,530	808,584	1,561,714	1,561,251
	Number LWD Cases	0	2	1	0	0
	LWIR <sup>1</sup>	0.00	0.37	0.25	0.00	0.00
	RIR <sup>2</sup>	0.08	0.92	0.49	0.64	0.90
	Fatalities	0	0	0	0	0

<sup>1</sup>LWIR – (Lost Work Day Injury Rate):  $Lost\ Work\ Day\ Cases \times 200,000 / Total\ Man-Hours$

<sup>2</sup>RIR – (Recordable Incident Rate):  $Number\ of\ Injuries \times 200,000 / Total\ Man-Hours$

# living safely

## SUSTAINABILITY IN ACTION



Raising Safety Awareness in the Community in Taloja, India

Expressing our core value of “Living Safely,” Owens Corning employees recognize that our commitment to safety extends beyond the walls of our facilities. Not only do we encourage employees to apply their safety knowledge in their homes, but we also partner with our communities to ensure safety is a top priority for everyone. Employees from our Taloja, India, plant, including two hazard recognition and control specialists, recently worked with a local school system to do just that. The team conducted a safety audit at two local schools, uncovering unsafe electrical conditions and other possible everyday hazards.

To address these issues, the team worked with the schools to prepare a corrective action plan to remedy the unsafe conditions and hold safety awareness sessions for administrators, teachers and students.

“Realizing the safety expertise we all bring to work every day, we wanted use this knowledge to improve the safety of our communities,” said Naresh Musale, environmental health & safety leader at Owens Corning. “We are very pleased we could help create a safer environment for the teachers and students of these schools and raise awareness of the importance of safety.” ■



## SOCIAL RESPONSIBILITY

# living safely

### 2016 OWENS CORNING SAFETY AWARDS

- The award for **Implementing the Presence of Safety** is given for the achievement by individual safety professionals or safety teams that have implemented safety processes that resulted in significant improvement in the presence of safety in a measurable way (e.g. significant improvement in SAFE score, RIR, Risk Scores, etc.). The awardees must be safety professionals who can show a significant improvement in at least one major safety performance measure that can be attributed to a specific action or process change now or in the future or that significant countermeasures taken likely averted a significant increase in risk. The 2016 award was given to an Owens Corning employee in Asia Pacific who helped improve safety at two newly acquired InterWrap sites. He coached the sites on the Owens Corning approach to safety. Additionally, he addressed the “Critical Six” program, specifically addressing lock-tag-try and machine guarding, which help limit the severity of injuries. The individual also led Extraordinary Safety Leadership training and taught employees how to recognize hazards as they walk through the plant
- The award for **Outstanding Continued Safety Excellence** is for the achievement by individual safety professionals or safety teams that have established, maintained and continued to improve safety processes that sustain excellence as indicated by tangible safety performance measures. The awardees must be safety professionals with consistent excellent safety performance measures sustained over a period of at least three years, attributable to the nominee’s focus on building sustainable and continuously improving safety programs and processes. In 2016, Owens Corning awarded a Regional Safety Leader within the Insulation business who put the following safety processes in place to achieve results: The leader oversaw 10 sites, which were recordable-injury-free in 2016, and the foam plants completed an injury-free calendar year for the first time in history. Under his leadership, the plants certified 167 HRC specialists and six HRC trainers. He championed near-miss reporting and a focus on scratch-free days.
- The **Outstanding Safety Leadership** award is given to non-safety professionals who have exhibited the leadership that was critical to bringing about significant improvements in safety performance. The awardees must have a major improvement in one safety performance measure during the past year or excellent performance measures sustained over a period of at least three years attributable to their leadership. The 2016 awardee is our Director of Division Operations for Foam and Original Equipment Manufacturers and Ridgeview plant leader. He began every meeting with safety, and he started holding biweekly calls specifically for plant leaders to share ways they are increasing safety awareness. He promoted the HRC program and, leading by example, achieved HRC specialist certification. At the end of 2016, there were 167 HRC specialists in his plants.

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living safely

His group achieved three milestones in 2016: 12 consecutive months, 12 calendar months and more than 1.2 million employee hours worked without a recordable injury.

- The **Outstanding Safety Outreach** award is given for achievement by individuals or teams that have provided assistance that would significantly impact safety performance of a facility or business segment or the development of safety leaders outside of their normal sphere of influence. This award is open to all employees and is given to individuals who have implemented a major safety program, or a solution to a significant safety concern, provided training that was critical to a major program or process, or developed and mentored safety professionals within the given year. The 2016 awardee is based in Latin America and has shown significant safety leadership in Mexico City and Tlaxcala facilities which completed 2016 with no recordable injuries. He deployed a strategy to implement the EHS pillar of Total Productive Maintenance (TPM) through which plant employees accept accountability for safety. Also, all shop floor employees are required to participate in root cause analysis of first-aid injuries and near-misses. Additionally, the facilities also participate in Keep It Fresh, a tool to improve the EHS culture. Through his encouragement, 16 HRC specialists were certified in the plants.
- The **Outstanding Safety Solutions** award is for achievement by individuals or teams that have developed and implemented creative solutions that significantly eliminate or reduce risk to employees, contractors or visitors. The award is open to all employees who are a significant contributor to the development and implementation of a solution or innovation that eliminates or reduces a significant risk to employees, contractors or visitors, or improves a safety management process. The 2016 awardees include the Taloja Chopped Strand Matline Project Team. The group set out to eliminate hazards during the mat transfer on the chopped strand mat line using a TPM approach. They developed a way to transfer mat without human intervention and in turn reducing risk significantly.



SOCIAL RESPONSIBILITY

# community impact

Around the globe, Owens Corning employees contribute service hours each year to boards, special causes and nonprofit organizations, and we track how many facilities are proactively engaging with their local communities. In our most challenged communities, providing the less fortunate with support for basic health and wellness enables us to connect with the community; further improve our reputation locally, regionally and globally; and instill a sense of pride in our workforce.

## STRATEGY AND APPROACH

The Owens Corning Foundation seeks to make a significant impact to enhance the quality of life in communities where our employees live and work. Our areas of focus include safe, efficient housing; basic shelter; basic health; and educational opportunities for those in need.



We have significantly improved the conditions of local communities by leveraging strategic partnerships with local leaders, nonprofit organizations such as Habitat for Humanity International and United Way Worldwide, schools, citizens, and other organizations operating in the same area. In communities where we have significant operations, Owens Corning is proactive in engaging with local leaders and citizens, participating in community meetings, and developing mechanisms for our stakeholders to review status updates and provide feedback.

We support communities in three critical ways:

- The Owens Corning Foundation provides financial support through strategic partnerships and our employee matching gifts programs;



# community impact

## Employee Engagement

Our teams around the globe enjoy volunteering their time and talents to their local communities. The Owens Corning Foundation supports, encourages and recognizes employee giving and volunteerism through a variety of programs, including:

- **Matching gift programs** that match employee charitable donations to educational institutions up to \$2,500.
- **Matching gift opportunities to provide assistance after natural disasters** that affect Owens Corning communities.
- **Global Volunteer of the Year Award**, a program that honors employee volunteerism and includes categories for individual employees, teams of employees and retirees – winners are able to direct a \$10,000 gift to the charity of their choice. This award has been given every year since 1993.
- **Enhancing Lives Grants**, which give facilities the opportunity to apply for grants for eligible community charities where employees volunteer.
- **Dependent Employee Scholarship Program**, which assists children and legal dependents of Owens Corning employees who demonstrate scholastic aptitude and financial need.

Additionally, in 2016, 72% of our approximately 100 operations worldwide were engaged in local community projects, up from 66% in 2015 and exceeding our 2016 goal of 70%. In addition, 11% of our operations have completed social impact assessments, and 11% are engaged in large-scale community development programs such as the building of clean water facilities in India and providing classrooms in China with refurbished laptops. In order to determine the best way Owens Corning can assist a community, we partner with local nonprofits, such as the United Way, to look at the areas around our plants, do a social impact assessment and offer suggestions on where Owens Corning can make the largest community impact. Current programs that started as a result of these assessments include educational programs for migrant children and sanitation facilities and clean water systems in villages and schools.



## SURPASSING 70%

In 2016, 72% of our operations worldwide were engaged in local community projects, exceeding our 2016 goal of 70%



SOCIAL RESPONSIBILITY

## community impact

### Joplin, Missouri

In one of our newest plant communities of Joplin, Missouri, the Owens Corning Foundation provided financial support to match employee volunteerism and donated materials for a Joplin Habitat for Humanity new-home build in 2016. The project was followed by a reception honoring the local Habitat affiliate. Attendees included local civic and elected leaders, Habitat board members, and Owens Corning leadership in the new community. The event provided an opportunity to connect socially, solidify relationships and further enhance our reputation in the community. The goodwill proved beneficial when the hiring process to staff the new facility began.

### Europe

The Owens Corning Foundation partnered with the King Baudouin Foundation, a leading resource for philanthropic giving to Europe and Africa, to complete community needs assessments in 2016 in four of the Company's key European communities – Besana, Italy; L'Ardoise and Chambéry, France; and Apeldoorn, Netherlands. Local projects will begin in these communities in partnership with appropriate charitable organizations in 2017.

### India

In India, the Owens Corning Foundation partnered with United Way Mumbai in 2013 to complete community needs assessments for our facilities in that country. Since that time, Owens Corning has been highly active in these communities in India, where our efforts are aligned with **United Nations Sustainable Development Goal #3, Good Health and Well-being** and **Goal #6, Clean Water and Sanitation**. In fact, our India operations are among the most active and engaged facilities in all of Owens Corning.

The Owens Corning Foundation has worked with United Way Mumbai and the HOPE Foundation to provide basic health services, clean water facilities, and basic sanitation in villages and schools.

In 2016, a total of 800 people in these communities in India benefited directly from our sanitation facilities, more than 2,000 gained access to clean water, over 3,300 gained access to basic medical services, 1,000 children of migrant construction workers received comprehensive care and healthy food, and 750 children were vaccinated. That work was supported by more than 600 hours of volunteerism by the employees of local Owens Corning facilities.

Our work in India also supports **United Nations Sustainable Development Goal #4, Quality Education**. In 2016, more than 400 migrant children received additional assistance through non-formal education opportunities that help them catch up with peers in reading and math. Nearly 700 students were able to access computers in the classroom for the first time, and 36 students were awarded scholarships.

## OUR INDIA OPERATIONS

are among the most active and engaged facilities in all of Owens Corning

SOCIAL RESPONSIBILITY

## community impact

Once again, all of this work was supported by significant volunteerism from local Owens Corning facilities. Owens Corning employees are involved in English teaching, mentoring, safety awareness sessions and many other volunteering activities to benefit students. Non Formal Education (NFE) classes allow students from primary and secondary schools in the project area to receive special attention to build their basic knowledge in language and mathematics. Regular home visits, interaction with parents and educational counseling for children are special features of this program and help children learn at their own pace. The success rate of these classes is approximately 65%, and 475 students were enrolled in the program for the 2016-17 school year.

We help provide children with basic computer education, which has helped improve school attendance and reduce the school dropout rate. Computer labs are set up in these schools, with computer teachers focusing on children in grades 4 through 7. For the 2016-17 school year, 697 students were enrolled in these computer education classes.

Every year, we award scholarships to students based on their academic performance. This helps motivate students who are doing well to continue their efforts, as well as provide encouragement for those who need to improve their academic performance. In 2016, 36 students were awarded scholarships.

During the summer, we provide support for children to unwind from their regular school activities and engage in experiential learning through field visits, sports, interactive games, and arts and crafts. Owens Corning employees take part in these sessions during summer camps. In 2016, 146 students participated in these activities.

Promoting physical activity among school children is also very important. Interschool sports meets and yoga classes in the schools help students stay physically and mentally fit. About 200 students participated in interschool sports meets in 2016, and 331 students benefited from regular yoga classes.

Some of our best community engagement successes in India in 2016 included:

- A financial literacy session conducted by volunteers and attended by 40 students;
- Awareness sessions conducted by employees on health, safety, environment, and energy conservation;
- A Wish Tree initiative, which gave employees the opportunity to fulfill the wishes and needs of students;
- Access to safe water, which was provided by setting up water purification units; and
- A needs assessment survey conducted for a vocational training course during 2016, leading to the enrollment of 15 students for the course, which started in March 2017.

# community impact

## China

In China, the Owens Corning Foundation invests in programs that improve education and youth development, enhance the living conditions of the impoverished aging and vulnerable families through house renovation, and provide support to children of migrant workers and poor families.

In 2016, we partnered with Habitat for Humanity China and sponsored five house renovations in Shanghai and two renovations in Guangzhou. The Owens Corning Foundation provided the financial support, and employees from our plant and office locations volunteered on these projects. The Foundation also sponsored the Habitat China Young Leaders Build program that helped more than a dozen families with their urgent home reconstruction needs in Shaoguan, Guangdong Province. The Young Leaders Build brings together junior leaders from numerous large corporations in China to help those in need. The program has become increasingly popular with our team and a great opportunity for our young leaders to expand their network while helping those in need.

During our initial community assessments in China in 2012, our plant employees noted their strong desire to help the children of migrant families who had come to large urban centers to find work. As a result, the Owens Corning Foundation partnered with NetSpring, a charitable organization based in Shanghai. The Owens Corning Foundation supported the founding of the Green IT Classroom programs in migrant schools near several of our plants in China. We continue to promote their development through educational support, donations of renewed computers and contributions for the installation of the necessary IT infrastructure for students. In 2016, we built one Green IT Classroom in Yuhang with 45 refurbished laptops. This program benefited 834 students (a majority of whom are members of migrant worker families) in 2016.

In partnership with United Way Worldwide and the Amway Charity Foundation, the Owens Corning Foundation supported the Spring Sprout Program in China to equip schools with advanced kitchen equipment, along with books and stationery. By the end of 2016, Owens Corning had set up three "Spring Sprout Kitchens" in Jiangxi and five in Shanxi to serve a total of 5,545 students. These schools board large numbers of "left-behind" children. These are the children of parents who have migrated to urban centers to find work, but felt it best to leave their children in home villages. The conditions in the schools are challenging. The diet consists primarily of soy and rice and the children trail their peers in height, weight and intellectual development. Spring Sprout Kitchens' program improves the ability of the schools to provide a proper diet.



## SUSTAINABILITY IN ACTION



### Honoring the Past, Inspiring the Future by Supporting Pearl Harbor Project

As part of Owens Corning's commitment to make an impact through our products and volunteerism, last year, we announced a partnership with the Concrete Preservation Institute (CPI). The partnership is twofold, supporting both the restoration effort at Pearl Harbor and CPI's Career Skills Program.

Owens Corning is donating fiberglass composites to CPI for use in the restoration of the historic Battleship Row mooring quays at the Pearl Harbor Monument. The mooring quays were used to secure the ships along Battleship Row and were the last structures remaining from the attack on Pearl Harbor on December 7, 1941. Owens Corning volunteers are also providing materials expertise to the project.

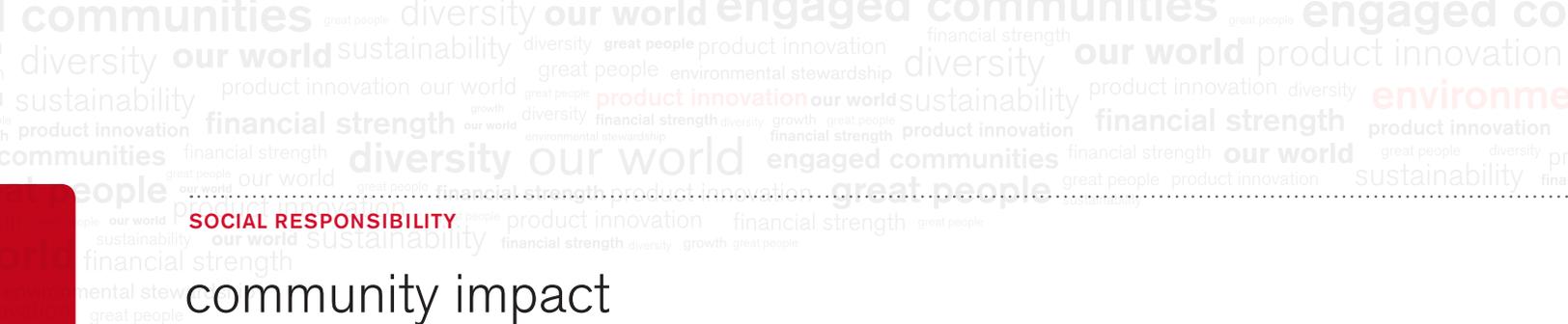
In addition, the Owens Corning Foundation donated \$100,000 to support CPI's Career Skills Program, which helps U.S. military personnel transition to civilian jobs, including in the concrete industry.

"CPI's Career Skills Program gives us a great opportunity to help the men and women of our military transition to civilian life," said Don Rettig, president, Owens Corning Foundation. "We launched this relationship and worked with CPI on National Pearl Harbor

Remembrance Day (December 7, 2016), which made it especially meaningful to our U.S. employees."

Service members from any branch of the military who are preparing to de-enlist can apply to participate in the 12-week Pearl Harbor program where they learn hands-on about concrete, construction and historic preservation while helping preserve one of the United States' most important historical sites. CPI has a tremendous job placement rate for program participants. ■

**"CPI's Career Skills Program gives us a great opportunity to help the men and women of our military transition to civilian life."**



## SOCIAL RESPONSIBILITY

# community impact

### **HABITAT FOR HUMANITY PARTNERSHIP BUILDS AND RENOVATES HOMES**

Owens Corning understands that for a variety of reasons some members of our communities find themselves unable to obtain safe and efficient housing and shelter. As a leading global producer of residential and commercial building materials, we have the opportunity and expertise to aid in the effort to provide safe and efficient housing and shelter for those who are unable to obtain housing through traditional methods.

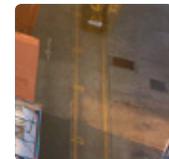
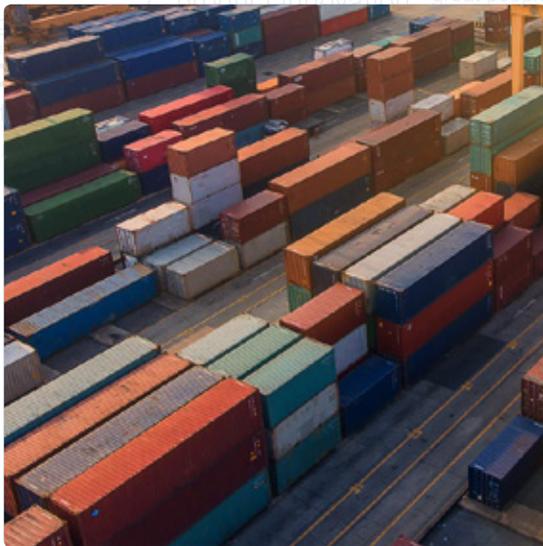
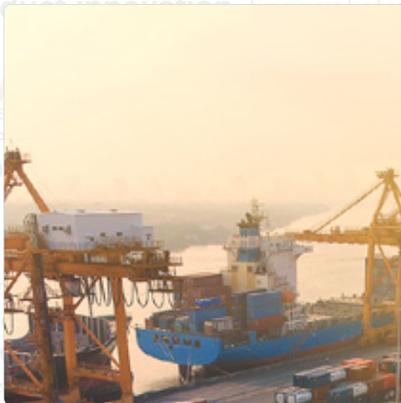
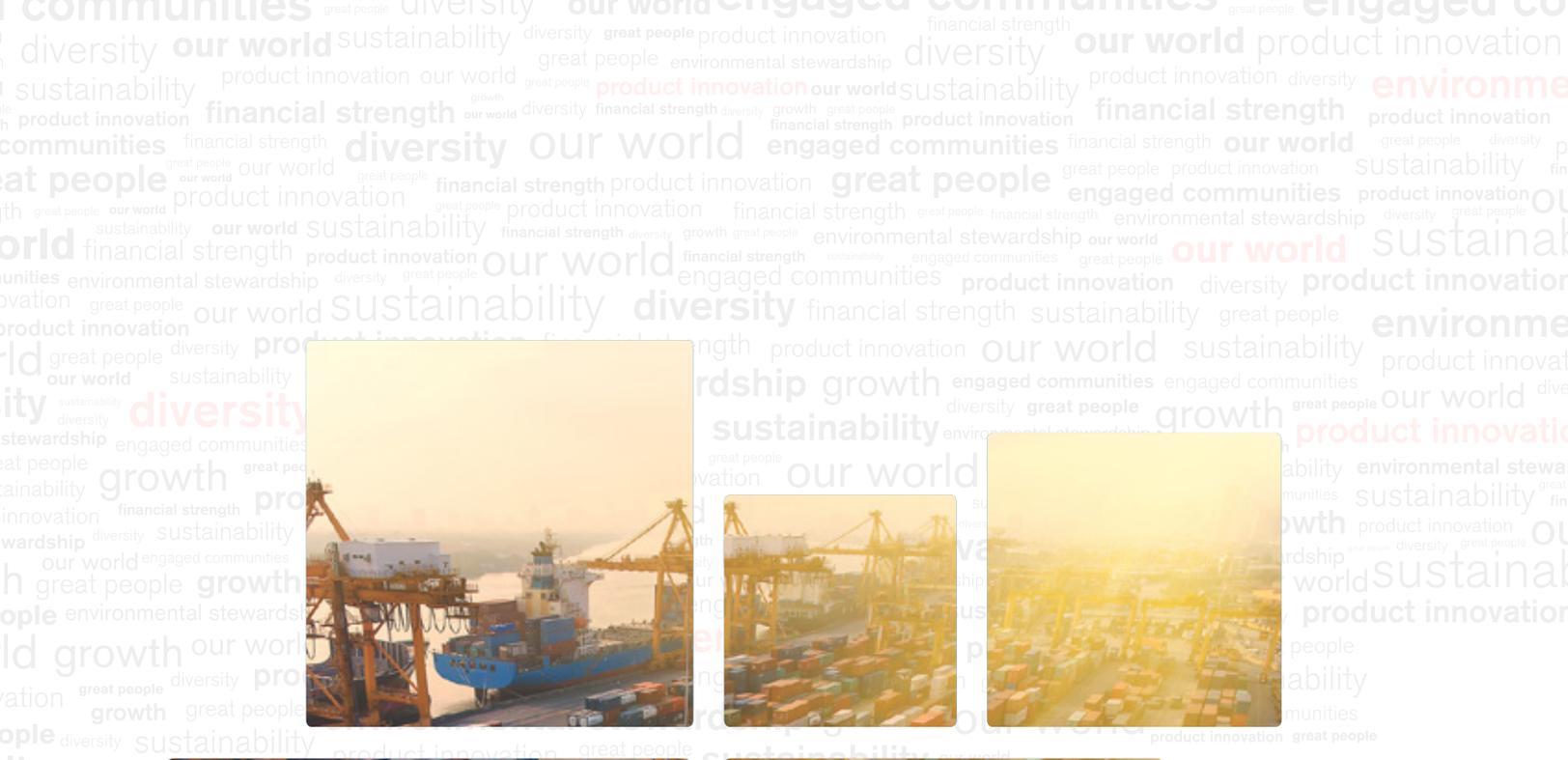
Our philanthropic focus on housing and shelter aligns with our three goals of supporting the Company's growth agenda, building a positive reputation within Owens Corning communities, and engaging our employees. This work also clearly supports **United Nations Sustainable Development Goal #11, Sustainable Cities and Communities.**

Through our partnership with Habitat for Humanity International, Owens Corning completed 25 home builds or renovations in 2016 in the United States, Canada and China.

### **COMMUNITY INVESTMENTS CREATE INDIRECT ECONOMIC IMPACT FOR COMMUNITIES**

Our businesses increasingly affect the economy of the local regions we operate in, and acting responsibly is critical to enhancing our sustainability goals. To this end, we have created a wide range of energy-saving products and high-performance buildings by leveraging our building science expertise and collaborating with our customers to create positive impact in our communities. Through our wages, taxes, hiring, procurement, and financial contribution policies, we ensure that our global operations do not have a potentially negative impact on communities and other stakeholders.

In 2016, Owens Corning and the Owens Corning Foundation cash contributions to nonprofit organizations totaled more than \$2 million, and in-kind giving totaled close to \$940,000. In addition, through Owens Corning's campaign for United Way of Greater Toledo, our employees and vendors raised \$1.2 million in 2016. While the United Way of Greater Toledo program is the largest chapter we partner with and donate to, Owens Corning is also proud to work with many United Way chapters around the globe.



# supply chain responsibility

5

SUPPLY CHAIN SUSTAINABILITY



## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

Owens Corning knows that maintaining a strong and positive reputation as a company requires us to earn it each and every day around the globe. We view supply chain transparency and risk management as an integral part of that effort. We believe the companies who supply goods and services to us are as much a part of the total supply chain of our business as our own operations. As a result, we consider it a business imperative to work with and nurture relationships with suppliers to ensure they are dedicated to upholding high standards in how they run their companies.

### STRATEGY AND APPROACH

Owens Corning has created a comprehensive [Supplier Code of Conduct](#), consistent with our [Employee Code of Conduct](#) and with the commitments we have made both as a signatory to the UN Global Compact and as a member of the RobecoSam DJSI World Index. The Supplier Code of Conduct outlines the various sets of expectations we have of each one of our suppliers, sets forth key principles we expect our suppliers to embrace, and acts prospectively as a reference for us in our sourcing selection processes.

Owens Corning's efforts to address new legislation pertaining to human trafficking and conflict minerals, as well as our vision to become industry leaders in responsible sourcing, prompted us to search for a proactive and pragmatic approach to manage these issues in the supply chain.

We have sought to strengthen our sustainability program and better understand the social, environmental, and health and safety practices of our suppliers. We collaborate with our suppliers to work on projects to move goals forward in sustainability, product performance and overall value to both our businesses. Owens Corning is committed to driving measurable improvements in supplier focus, prioritization, engagement, performance and risk mitigation through world-class sourcing practices.

In 2016, we advanced our processes in understanding competitive analytics, which is now a formal component of our playbook and standardizes the way we create, communicate and execute commodity strategies. All of our commodity leaders globally have attended training to ensure a consistent process across the Company.

### Goals and Commitments

Owens Corning is committed to carrying out our 2020 supply chain sustainability goals:

- Set clear expectations for sustainability progress by our suppliers;
- Use leading-edge sourcing practices;
- Measure and disclose supply chain performance;
- Expand our training on sustainability to meet the needs of our global sourcing organization; and
- Enhance our transportation efficiency.

## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

In the area of transportation efficiency, we had a goal to convert 50% of North American transportation miles from diesel fuel to natural gas between 2012 and 2020. Due to low fuel prices, the original goal is no longer feasible for our carriers. Owens Corning is committed to accomplishing the same metric tons/mile intensity reductions in our original goal by the continued conversion of diesel- to natural gas-powered equipment, combined with increasing utilization of bulk transport, such as intermodal and rail, and encouraging the use of lower-emissions equipment available to the marketplace and used by our carriers.

As a result, our goal now is to convert 12% of transportation miles to natural gas or use alternative fuel savings methods by the year 2020. Of our total miles transported in 2016, 11% were moved using natural gas, a 1% increase over 2015. We increased miles moved via alternative means (intermodal, boxcar) to 21% in 2016, up from 19% in 2015.

## OWENS CORNING'S SUPPLY CHAIN

Owens Corning is essentially a material converter – we buy raw materials and, with our expertise and processes, convert them to our final products, which include fibrous insulation (fiberglass and mineral wool) and extruded polystyrene foam insulation; roofing products (shingles and underlayment) and asphalt; and composite glass fibers for reinforced polymer products or other forms used for veils, liners and other input products.

The main direct raw materials consist of minerals, chemicals, energy and packaging. These are brought together in a number of different processes in our manufacturing facilities around the world to make finished products or, in the case of composites, a finished raw material for another business to utilize. We have facilities in 26 countries, and we manage inbound and outbound freight transport via truck, rail and ship as a part of our supply chain.

Our total supply base is more than 17,000 organizations, but just 1,367 of these suppliers comprise 87% of our spend. For those 1,367, we have active management processes in place to evaluate, segment and engage with suppliers depending on their overall profile. The majority of our supply spend goes to material suppliers, followed by transportation companies. In addition, we utilize distributors and service suppliers for capital goods, machinery and a myriad of technical, consultative and management services. We had no significant changes to our supplier profile in 2016. We will be integrating the recently acquired InterWrap supply chain.

We evaluate our suppliers utilizing a segmentation tool identifying suppliers in four quadrants based on risk and impact:

- **Collaborative Suppliers:** Represent low risk and high impact to Owens Corning. The suppliers bring a high level of impact in a variety of ways, including innovation or productivity savings, a high level of spend, high impact to operations or cash (EBIT, terms,

## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

capital), a competitive advantage, as a critical customer to Owens Corning, or as a supplier Owens Corning can't do business without. The relationship between Owens Corning and these suppliers is at all levels in both organizations.

- **Critical Suppliers:** Represent high risk and high impact to Owens Corning. The high-risk component may be due to single sourcing, extensive cost or difficulty to switch to an alternative supplier, or the supplier may be prone to instability, subject to disruptions, or may not have publicly stated sustainability and safety measures. The high impact component may include innovative products or cost savings, competitive advantage or a long-term relationship with Owens Corning.
- **Transactional Suppliers:** Represent both low risk and low impact to Owens Corning. These suppliers have a low level of spend, low impact to operations or cash (EBIT, terms, capital), do not create competitive advantage, are not critical suppliers, and are easy to replace. Most transactional suppliers to Owens Corning have strong financial health, stability in business and have no supply disruptions.
- **Constraint Suppliers:** Represent high risk and low impact to Owens Corning. The high risk may be due to ongoing quality issues, they may be single-sourced, there may be extensive cost or difficulty to switch to an alternative supplier, they may be prone to instability or subject to disruptions, or they may not have publicly stated sustainability and safety measures.

Owens Corning uses the Business Information (BI) tool within our SAP solution to gain detailed visibility on our supplier spend performance. Our tool enables the breakdown of the supplier spend by commodity type, business segment, location of supplier and commodity leader classification. In 2014, we updated our supplier segmentation process to deploy a more transparent and detailed assessment of our critical suppliers that should be “actively managed” to determine critical spend, concentration of spend and extent of supplier risk. The criteria to characterize supplier risk include single sourcing, level of difficulty switching to an alternative supplier, economic and business stability of the supplier organization, country of operation, sustainability footprint of the supplier organization, safety-related issues reported by the supplier organization, and willingness to adhere to our Supplier Code of Conduct.

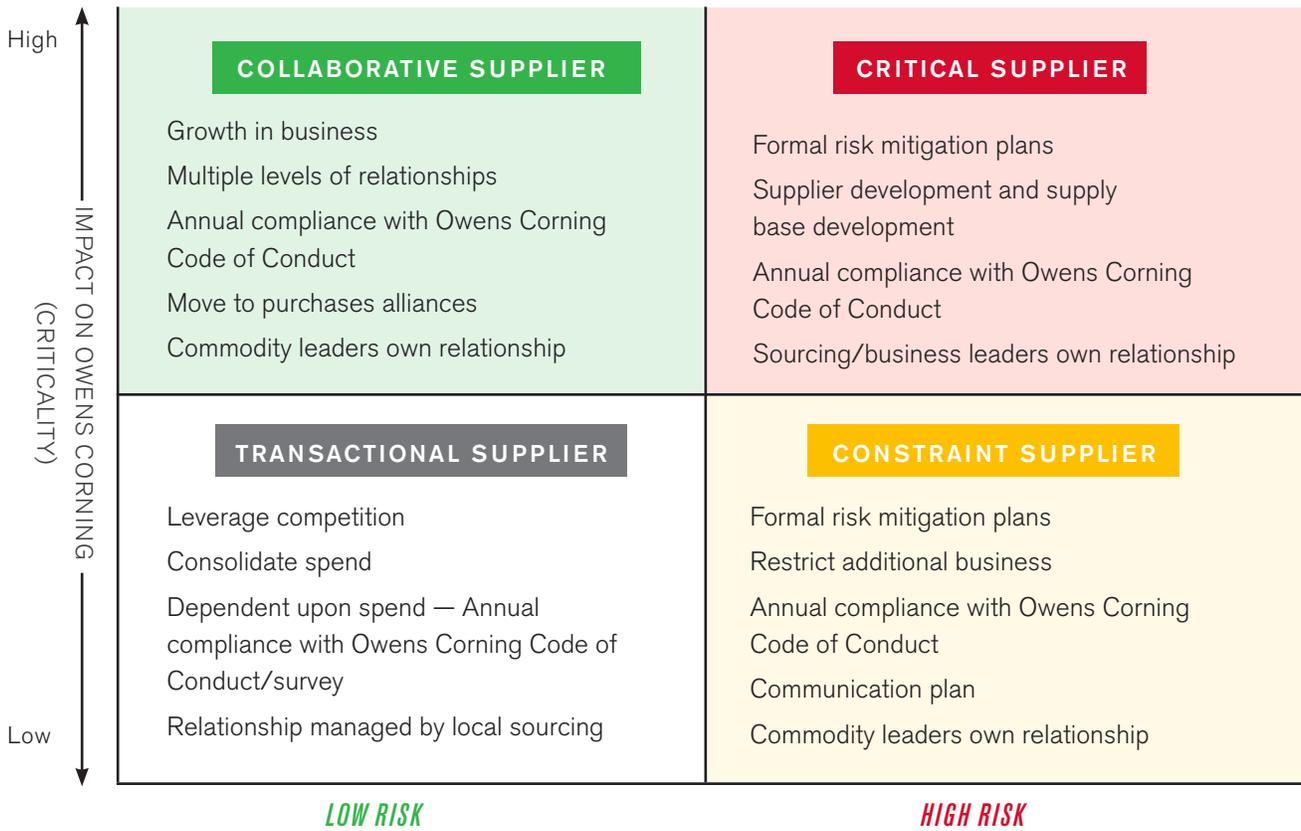
Continuing the efforts started in 2014, a detailed study was reviewed to segment these top 1,367 suppliers based on impact and risk. Each supplier was objectively scored using six questions on impact and 10 questions on risk. The resulting two-by-two matrix places them in one of four quadrants.

**SUPPLY CHAIN RESPONSIBILITY**

# supply chain sustainability

Each commodity leader creates specific action plans to increase the impact and decrease, or mitigate, the risk of their suppliers. Potential action items, by risk quadrant, are shown below:

## Supplier Segmentation– Potential Action Items



We have sustainability risk indicators that coincide with aspects of our Supplier Code of Conduct. Based on these indicators and performance indicators described in our segmentation process, we adopted an ESG based risk assessment framework which maps environmental, social and economic risks for the segmented supplier base. We conduct an annual supplier survey mapped to the ESG risk categories. This survey is kept open throughout the year to allow any new suppliers to contribute. Based on responses, we assess all the participating suppliers holistically. The analytics drawn from the survey results help identify risks, best practices and opportunities across our supply base.



## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

Owens Corning assesses supplier risk through multiple processes – supplier sustainability surveys, segmentation, performance measurement, on-site evaluations, supplier self-assessments, review of supplier nonconforming material, etc. Each nonconformance is assessed and prioritized with corrective actions established to mitigate or correct the issue.

The process for mitigation or correction is dependent upon the process as documented in our supplier management work instructions. Our organization utilizes an industry standard format for corrective actions that includes a short term action and containment plan, root cause analysis, identification and verification of long term corrective actions, implementation of long term corrective action and final verification and sign-off of stakeholders.

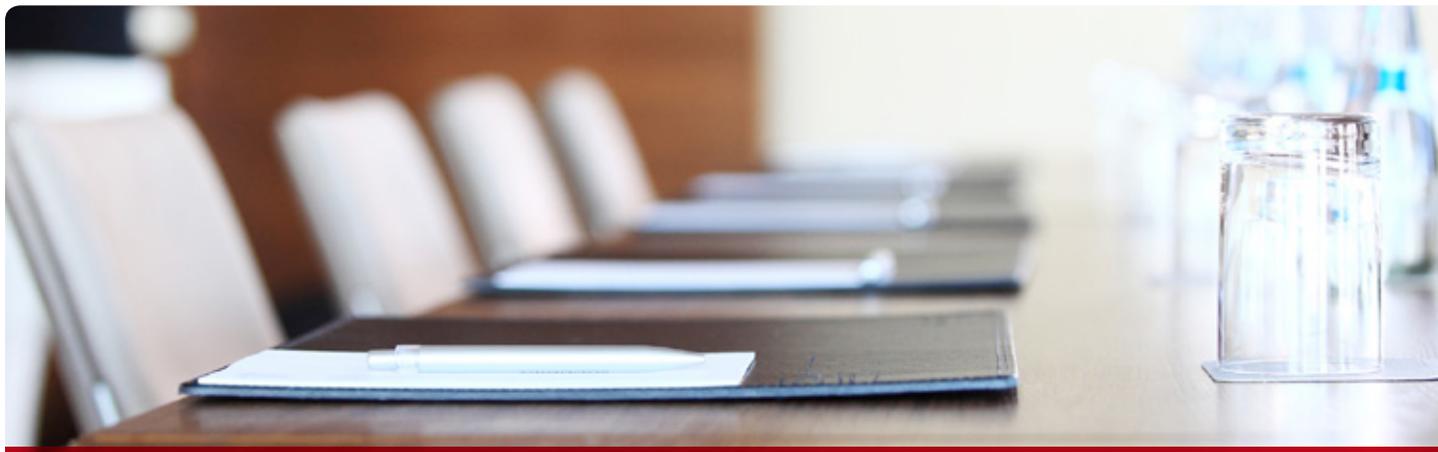
The corrective action form is most typically used during supplier assessments and at receipt of nonconforming material. In addition to the request for a corrective action when Owens Corning receives nonconforming material, we may ask our supplier to provide additional inspection data with shipment showing actual measurements for critical characteristics, sign-offs of management at supplier locations, etc.

When supplier risk is identified during other processes, a contingency plan may be created to assist in mitigating the risk. Both supplier and Owens Corning work together in the creation of the contingency plan to assure the risk identified is addressed in the plan and a scheduled to regularly review is established. Additionally, the plan is tested as best as possible to validate. The contingency plan may be a very detailed document outlining action plans in the event of power outages, labor disputes, transportation issues, materials shortages or it could be an increased inspection plan or material certification plan at the supplier location. Each risk is reviewed, prioritized and managed using the appropriate tools available to the organization.



# supply chain sustainability

## SUSTAINABILITY IN ACTION



### Owens Corning Suppliers Join Forces at First Supply Chain Summit

A critical piece in achieving our sustainability goal is the support of our suppliers and partners. In order to better communicate with our suppliers about their extensive impact on sustainability, Owens Corning invited some of our top suppliers to our first Supply Chain Summit. The half-day summit helped suppliers understand Owens Corning's goals, expectations and how their companies can support our sustainability journey. Forty-three suppliers were represented at the summit.

The meeting began with comments from top Owens Corning executives, including Vice President and Chief Sustainability Officer Frank O'Brien-Bernini. During his remarks, O'Brien-Bernini gave suppliers an overview of Owens Corning's sustainability journey and explained how their actions influence product life cycle sustainability.

During the summit, Owens Corning divided suppliers into groups and presented them with a sustainability-focused case study. Suppliers and Owens Corning employees talked through the case studies to create open dialogue and learn more about the problem-solving tactics of each supplier.

Additionally, Owens Corning took the summit as an opportunity to discuss the importance of our annual supplier sustainability survey. The survey, which is distributed to our top 1,000 suppliers, helps Owens Corning gain visibility into the product supply chain and make sure suppliers are adhering to the Owens Corning Supplier Code of Conduct. ■

**The half-day summit helped suppliers understand Owens Corning's goals, expectations and how their companies can support our sustainability journey.**

## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

### SUSTAINABLE SUPPLY CHAIN

Owens Corning's supplier survey gives us the opportunity to work with suppliers to embed sustainable sourcing practices into our business. We use this strategic data to work with and nurture relationships with suppliers. We believe that every supplier should have sustainability goals as part of its performance objectives, and measure progress against those goals. Supply chain transparency helps us measure the progress of our suppliers, foresee risks, and identify opportunities for partnerships to improve social, environmental and economic results.

Cost, quality performance, delivery performance, innovation, financial viability and location are the key considerations in our supplier selection process. Additionally, the supplier must meet social, safety and environmental standards as stated in our Supplier Code of Conduct. To further enhance sustainability across the supply chain, we believe transportation of materials and engagement with the supplier can be done more efficiently if the supplier is nearby. We do not have a policy in place for local procurement, but we track this information for our U.S. facilities and define local as an area within a 250-mile radius of any of our facilities. In 2016, 37% of Owens Corning's purchases were made locally for significant locations of our operations. Some products, such as cullet (recycled glass) are sourced near plant locations (within 250 miles) as a matter of good practice and cost effectiveness. Many of our facilities have rail delivery capability, enabling longer haul distance procurement with cost and environmental benefits which would fall outside the 250 miles definition, but these have not been included in the percent reported.

Our Supplier Code of Conduct states that suppliers are expected to:

- Provide adequate management systems for environmental, health, and safety, and product stewardship programs;
- Provide products that are safe and environmentally sound to use and dispose of;
- Have programs to reduce the environmental impact of their products, such as reduction of discharges into natural surroundings and other sources of pollution; and
- Establish goals and monitor the reduction of their environmental footprint.

### SUPPLIER SCREENING

Our Supplier Code of Conduct was developed with guidance from the United Nations Global Compact's 10 universally accepted principles. In 2016, 100% of all new suppliers were screened using societal, human rights, labor practices and environmental criteria, through review of the Supplier Code of Conduct, self-evaluation data or review by a commodity leader.

Supplier Base by Country (percent) (2016)

Country	Percent of Total
U.S.	72%
Canada	5%
China	3%
Mexico	3%
France	2%
India	2%
Brazil	2%
Italy	1%
Germany	1%
South Korea	1%
Japan	1%
Netherlands	1%
Belgium	1%
U.K.	1%
Russia	1%
Other	3%

## SUPPLY CHAIN RESPONSIBILITY

# supply chain sustainability

### Our Impact on Sand Mining

There is a global concern that the illegal mining of sand, or extraction from riverbeds and shorelines, is harming the environment and threatening beaches and habitats. A 2016 article, “*Sand, A Surprisingly Limited Resource*” on BuildingGreen.com, highlighted sand as having very high demand globally with a declining supply. Forty billion tons of sand is used annually around the world and more than 80% is consumed by the construction industry. Owens Corning is a relatively small user of sand (silica) for the production of glass products such as insulation and composites, with annual consumption approaching 1 million tons. Glass production requires a higher grade of silica that generally comes from mines and quarries, so riverbed and shoreline sands are not suitable. Our global commodity leaders reached out to our suppliers in Asia, India, North America and Europe and confirmed we source silica specifically from legal mines and quarries. We are confident in the integrity and continuity of our silica supply base.

### SUPPLY CHAIN IMPACTS

In 2016, 993 suppliers were subject to assessments for impacts on society and labor practices. As a result of these assessments, Owens Corning does not have any suppliers identified as having potential or actual significant negative impacts on society, human rights, labor practices or the environment. No cases related to human rights were reported in 2016. Owens Corning has a [Human Rights Policy](#) in accordance with the United Nations Global Compact, which is provided online. Expectations on human rights for suppliers are outlined in our Supplier Code of Conduct.

Additionally, a new supplier screening process began in 2015. A full 100% of new suppliers are now screened for any global or governmental sanctions using the Thomson Reuters World Check system. Information is collated from an extensive network of reputable sources, which include:

- 530+ sanction, watch, regulatory and law enforcement lists;
- Local and international government records;
- Country-specific data sources;
- International adverse electronic and physical media searches;
- English and foreign language data sources; and
- Relevant industry sources.



## ECONOMIC RESPONSIBILITY

# economic impact

Owens Corning is committed to balancing economic growth with social progress and environmental stewardship. We are a world leader in building materials and composite systems, delivering a broad range of high-quality products and services. Our products range from insulation and roofing for residential, commercial and industrial applications to glass fiber used to reinforce composite materials for transportation, electronics, marine, infrastructure, wind energy and other high-performance markets.

### DRIVING SUSTAINABLE ECONOMIC GROWTH

At Owens Corning, we believe that environmental sustainability is central to economic growth. Our commitment to balancing economic growth with social progress and environmental stewardship enables us to continue delivering sustainable solutions to our customers and stakeholders across the globe. Our economic progress can be measured by various financial indicators and robust performance across all of our businesses. In 2016, we were able to show positive results and delivered a great year with revenue growth of 6% and record levels of both adjusted EBIT and free cash flow. The Company is at its best when all of our businesses make meaningful contributions to our financial results, and these results reflect the continued improvements we have made to our portfolio of businesses. Based on the strength exhibited across our portfolio and confidence in our market outlook, our Board of Directors declared a quarterly dividend of \$0.20 per share, representing an 11% increase over the prior year.

### Key Sustainability Indicators

To drive sustainable economic growth, we are focused on addressing and continuously improving on our key sustainability indicators. These include:

- Achieving operational sustainability by **reducing our environmental footprint**, in line with our global stakeholders' expectations. We are committed to reducing primary energy usage, greenhouse gas emissions, fine particulate matter and toxic air emissions, as well as minimizing waste-to-landfill and water usage.
- Charting a clear course of action to **drive product and supply chain sustainability** through enhanced engagement and by enabling product life cycle transparency, which is a critical success factor for our

To review our economic performance in detail, please see our [2016 Form 10-K](#).

## ECONOMIC RESPONSIBILITY

# economic impact

stakeholders, based on the feedback we have received. Our product responsibility goals make transparent the total life cycle assessment (LCA) of all core products.

- Ensuring community impact through **local community initiatives**, a key aspect of honoring our social responsibility.
- Striving to **drive net-zero energy building capabilities**, thereby achieving no net carbon releases, through sustained partnerships with customers, specifiers, architects and builders.
- Expanding our **building science expertise** to educate the building industry, engineers, contractors and homeowners on safe and efficient building materials.
- Continuing to make the **safety, health and wellness of our employees** a top priority. Our safety programs are designed to maintain high standards of workplace safety for our global workforce through robust safety measures and proactive mitigation of workplace safety hazards. We have a global wellness strategy focused on six key aspects that engages our employees and their families.

## PENSION LIABILITIES

We believe our people are integral to our success, and we are committed to providing all employees with comprehensive retirement benefits. Generally, we offer these benefits via defined contribution arrangements. However, defined benefit plans may be provided in accordance with local custom to ensure a competitive overall benefits package.

Over 95% of our defined benefit obligations are payable through a fund held and maintained separately from the resources of the organization. The U.S. qualified plan is 98.70% funded, as determined by actuarial valuation within the past 12 months. The U.K. and Canadian plans are less than 100% funded, also based on actuarial valuation within the past 12 months. These three plans represent over 90% of the Company's defined benefit liabilities.

Our strategy for the U.S. plan is to contribute at least the minimum required amount each year and ensure that the plan is funded at 80% or greater. Other plans are funded in order to fully comply with local funding requirements.

Approximately 90% of Owens Corning employees participate in voluntary retirement savings (defined contribution) programs, excluding jurisdictions where participation is mandatory.

Based on our U.S. 401(k) plan, which represents approximately 90% of our contributory savings plans globally, employees who maximize the Company match will be saving 14% of salary toward retirement, from both employee and employer contributions.

## ECONOMIC RESPONSIBILITY

# economic impact

### FINANCIAL ASSISTANCE

Owens Corning receives financial assistance in the form of tax credits.

#### Tax Credits

Details	Currency	Value
U.S. Research and Development Credits	USD	1,900,000
France R&D credit	EUR	1,600,000
France CICE credit	EUR	1,150,000

There is no government presence in the Company's shareholder structure.

### COMPENSATION MODEL

Compensation at Owens Corning is designed to be competitive at the local labor market level. Base pay rates are determined by job responsibility level and are targeted at the market median (50<sup>th</sup> percentile of comparable companies with whom Owens Corning competes for talent). Base pay rates are reviewed and updated annually, based on the job performed and the local market wages for similar skills.

In addition to employee base pay, most primary employees are eligible to participate in Owens Corning's Variable Incentive Plan (VIP) at the plant levels, which is dependent on individual and plant results. This compensation program lends to a competitive structure and above average Total Cash Compensation when a location performs well. Employees receive compensation from the Company that is proportionate to the impact of role and contribution the individual makes to the Company, ensuring fairness in our programs.

Our compensation team has done a thorough analysis of our U.S. population and all current and approved, but not yet enacted, minimum wage increases. We are currently paying our people at or above all established minimum wage requirements. For Owens Corning, minimum wages are generally not relevant because the majority of entry-level Owens Corning positions require a higher level of skills or knowledge than jobs at which the minimum wage rate would apply.

At Owens Corning, our compensation philosophy is to effectively use all elements of compensation to align employees with the goals and objectives of the Company and its businesses, and encourage our employees to meet and exceed desired performance objectives. In order to ensure we bring in the correct talent to our team, we look at the business needs first and then select individuals whose skills, knowledge and experience will best help us meet our business objectives.

Employee compensation is intended to be performance-driven, market-competitive and fair. We reward both individual and collective contributions to our business' success through base and variable pay. Base salaries are determined by job responsibility level, benchmarking data

## ECONOMIC RESPONSIBILITY

# economic impact

on market competitiveness, individual competencies and performance. A consistent philosophy in the design, application and administration of total compensation programs globally ensures equitable treatment for all employees independent of gender, age or ethnicity. Most staff employees are eligible to receive additional cash incentives via the Corporate Incentive Plan (CIP) based on the year-end company results and their individual performance. EBIT Targets by business and a consolidated Corporate Target compile the Corporate Component, while the Individual Component is based on each employee's annual performance.

For more information, please visit the [Owens Corning Careers page](#).

### LOCAL HIRING

As an organization with operations across multiple geographies, we believe it is important to focus on local hiring to optimize costs and efficiency.

As of 2016, 18 of 19 members of our senior leadership team – our key general managers and business leaders – live in or are citizens of the local country where they are assigned. The other senior leader who was not sourced locally is an internal transfer sent to an international location as an expatriate for growth and development as a global leader, leading to increased cultural and business intelligence.

#### Senior Leadership Hiring from the Local Community

Significant locations of operation	Percentage of senior leadership hired from the local community
Toledo, Ohio (World Headquarters)	100% (16/16)
Asia Pacific Headquarters	0% (0/1)
Granville, Ohio	100% (1/1)
European Headquarters	100% (1/1)

## ECONOMIC RESPONSIBILITY

# disclosure of risk

At Owens Corning, we focus on proactive risk mitigation by identifying potential risks and prioritizing them based on how they could impact our business. We utilize a risk framework and implement best practices and systematic processes to ensure robust risk management.

### MITIGATING RISKS THROUGH A ROBUST FRAMEWORK

Optimal risk management and disclosure are high priorities for Owens Corning. We identify and manage risk through a robust framework that comprehensively scans risks across economic, environmental and social domains. We pursue a forward-looking and holistic approach to enable business decisions, and take calculated risks to build long-term financial goals and shape a successful future.

Owens Corning has a Risk Committee that considers significant risks to the corporation. The committee has a process in which its members:

- **Review the Owens Corning Risk Register substantiated by business and functional reviews.** Risks are prioritized based on their placement on a register that considers financial impact and probability of occurrence, as well as whether the level of exposure is acceptable, and if mitigation plans are actively in place or improved risk mitigation is needed.
- **Align around key mitigation programs.** Based on the risk register outputs, the Risk Committee identifies the various mitigation actions necessary and takes a planned approach toward implementing these same actions through the businesses.
- **Review the risk register with the Executive Committee.** All risk assessment results and outputs are reviewed by the Executive Committee, and feedback is incorporated into the risk register and reflected in the mitigation planning.

- **Meet semiannually as a committee.**

The Risk Committee meets twice a year to review emerging risks and their potential impact to Owens Corning, as well as to review the existing risk aspects, add any new risks being identified from internal or external sources, and update any risks no longer considered applicable to the businesses. The Risk Committee also reviews the mitigation actions and outputs for the annual cycle.

- **Provide a yearly update to the Audit Committee of the Owens Corning Board of Directors.**

### STAKEHOLDER CONSULTATION ON RISKS AND OPPORTUNITIES

To better understand what others expect of Owens Corning, we proactively engage with individuals, groups and organizations that are impacted by our business operations. As part of the process, we have implemented a structured review process through our materiality assessment to evaluate stakeholder expectations and priorities. Our assessment is an ongoing process that provides guidance and direction to our environmental, social and economic strategy.

**ECONOMIC RESPONSIBILITY**

# disclosure of risk

## Impact of Owens Corning's Operations on Stakeholders

The impact of Owens Corning's operations on the ecological, social and economic environment has direct implications for our stakeholders. The details of the impact are discussed in detail in the environmental, social and economic sections of this report.

## RISK ASSESSMENT FRAMEWORK

Owens Corning has an integrated risk assessment methodology program that ties into a multidisciplinary, company-wide risk management process:

### Identification

Our business units use risk maps to proactively analyze risks and create business-specific risk registers. The risk registers are, in turn, used by the corporate risk team to create the corporate-level risk register. This enables business units and the corporate risk team to facilitate strategic and operational planning processes, while mitigating climate change and sustainability risks.

### Prioritization

We prioritize risks based on their placement in the risk register, whereby the Y-axis is a measure of financial impact and the X-axis represents the measure of probability of occurrence. For instance, a risk located at the upper left of the risk map is indicative of high financial impact with a low probability of occurrence. We also use color coding to place additional emphasis on potential risks.

### Review and Alignment of Risk Mitigation Plan

To identify new risks and update risks no longer considered relevant, our Risk Committee reviews results and outputs of risk assessment twice a year. This enables the committee to implement a robust mitigation plan across our businesses. Our Enterprise Risk Management (ERM) process is updated and reviewed annually by the Executive Committee and the Audit Committee of the Board of Directors to ensure that it remains relevant and proactive. In 2014, the process was benchmarked with the Committee of Sponsoring Organizations (COSO) framework and was updated to bolster the process around employee fraud risk.



Risk Mitigation Framework

## ECONOMIC RESPONSIBILITY

# disclosure of risk

### SUMMARY OF KEY RISKS AND OPPORTUNITIES

Our risks range from cyber risks, loss of key facilities due to natural catastrophe, significant changes in the regulatory environment (including EHS regulations), competitive threats, supply chain risks and energy constraints to loss of key talent, theft of intellectual property, product liability, IT infrastructure failures, loss of a key customer and global political risks.

We have adopted correlation analysis as an instrument that displays the likelihood of an event occurring within a specific time period. A detailed correlation analysis is completed on the key external business drivers such as housing starts, hurricane and other severe weather conditions, and on aspects like wind power growth rates. For example, correlation analysis has indicated that the insulation business is highly correlated to new home starts. Based on actual and forecasted home starts, the business builds its strategic plan and makes the appropriate tactical maneuvers to right-size capacity and the workforce. Additionally, energy, commodity and foreign currency hedging programs are routinely evaluated to provide inputs to our correlation analysis. In support of reducing risk related to energy costs, Owens Corning announced its commitment to Science-Based Targets in 2015 in an effort to mitigate climate change.

We discuss the business risks in-depth in our [Annual Report on Form 10-K](#). Details of our risk factors can be found on page 4 of the Form 10-K, while details of our market risk are available on page 37. In addition, risks related to climate change, including how they are currently managed, are discussed in our CDP Climate Change 2017 Report, questions 2.1 and 5.1. Given the nature of our products, Owens Corning has significant opportunities to enhance sustainability, which have been included in our CDP Climate Change 2017 Report, questions 2.1 and 6.1.

The risks that directly impact our operations include:

#### Regulatory Risks

Regulatory risks are detailed in our public CDP Climate Change 2017 Report. Training is provided to leaders throughout the businesses, and the risk register is managed at a corporate level as well as throughout the individual businesses. Each business is required to complete strategic planning, covering risk management and strategic risk, and to include regulatory risk components.

#### Competitive Threats

All of the markets we serve are highly competitive. We compete with manufacturers and distributors, both within and outside the United States, in the sale of building products and composite products. Some of our competitors may have financial, technical, marketing or other resources that are superior to ours. In some cases, we face competition from manufacturers in countries able to produce similar products at lower costs. We also face competition from the





**ECONOMIC RESPONSIBILITY**

## disclosure of risk

- Tax inefficiencies and currency exchange controls that may adversely impact our ability to repatriate cash from non-U.S. subsidiaries;
- The imposition of tariffs or other import or export restrictions;
- Costs and availability of shipping and transportation;
- Nationalization of properties by foreign governments; and
- Currency exchange rate fluctuations between the U.S. dollar and foreign currencies.

As we continue to expand our business globally, we may have difficulty anticipating and effectively managing these and other risks that our international operations may face, which may adversely impact our business outside the U.S. as well as our overall business, financial condition and results of operations.

In addition, we operate in many parts of the world that have experienced governmental corruption, and we could be adversely affected by violations of the Foreign Corrupt Practices Act (FCPA) and similar worldwide anticorruption laws. The FCPA and similar anticorruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to officials for the purpose of obtaining or retaining business. Although we mandate compliance with these anticorruption laws and maintain an anticorruption compliance program, we cannot provide assurance that these measures will necessarily prevent violations of these laws by our employees or agents. If we were found to be liable for violations of anticorruption, we could be liable for criminal or civil penalties or other sanctions, which could have a material adverse impact on our business, financial condition and results of operations.

Our sales may fall rapidly in response to declines in demand because we do not operate under long-term volume agreements to supply our customers and because of customer concentration in certain segments. Many of our customer volume commitments are short term; therefore, we do not have a significant manufacturing backlog. As a result, we do not benefit from the hedge provided by long-term volume contracts against downturns in customer demand and sales. Further, we are not able to immediately adjust our costs in response to declines in sales. In addition, although no single customer represents more than 10% of our annual sales, our ability to sell some of our products in Insulation and Roofing are dependent on a limited number of customers, who account for a significant portion of such sales. The loss of key customers for these products, a consolidation of key customers or a significant reduction in sales to those customers could significantly reduce our revenues from these products. In addition, if key customers experience financial pressure or consolidate, they could attempt to demand more favorable contractual terms, which would place additional pressure



## ECONOMIC RESPONSIBILITY

# disclosure of risk

on our margins and cash flows. Lower demand for our products, loss of key customers and material changes to contractual terms could materially and adversely impact our business, financial condition and results of operations.

### Worldwide Economic Conditions and Credit Tightening

The Company's business may be materially and adversely impacted by changes in United States or global economic conditions, including global industrial production rates, inflation, deflation, interest rates, availability of capital, consumer spending rates, energy availability and commodity prices, trade laws and the effects of governmental initiatives to manage economic conditions. Volatility in financial markets and the deterioration of national and global economic conditions could materially adversely impact the Company's operations, financial results and/or liquidity including as follows:

- The financial stability of our customers or suppliers may be compromised, which could result in reduced demand for our products, additional bad debts for the Company or nonperformance by suppliers;
- One or more of the financial institutions syndicated under the credit agreement governing our revolving credit facility may cease to be able to fulfill their funding obligations, which could materially adversely impact our liquidity;
- It may become more costly or difficult to obtain financing or refinance the Company's debt in the future;
- The value of the Company's assets held in pension plans may decline; and/or
- The Company's assets may be impaired or subject to write-down or write-off.

Uncertainty about global economic conditions may cause consumers of our products to postpone spending in response to tighter credit, negative financial news and/or declines in income or asset values. This could have a material adverse impact on the demand for our products and on our financial condition and operating results. A deterioration of economic conditions would likely exacerbate these adverse effects and could result in a wide-ranging and prolonged impact on general business conditions, thereby negatively impacting our operations, financial results and/or liquidity.

### Climate Change Risks

Climate change risks and opportunities are fundamentally driven by three factors: regulations, physical climate factors and other climate-related variations. In the spirit of transparency, Owens Corning voluntarily discloses these risks in our CDP Climate Change 2017 Report, which will be published in the third quarter on our sustainability website.

## ECONOMIC RESPONSIBILITY

# disclosure of risk

### OTHER RISKS

As part of the GRI G4 reporting process, we evaluate our operations for the following additional risks:

#### Freedom of Association and Collective Bargaining Risks

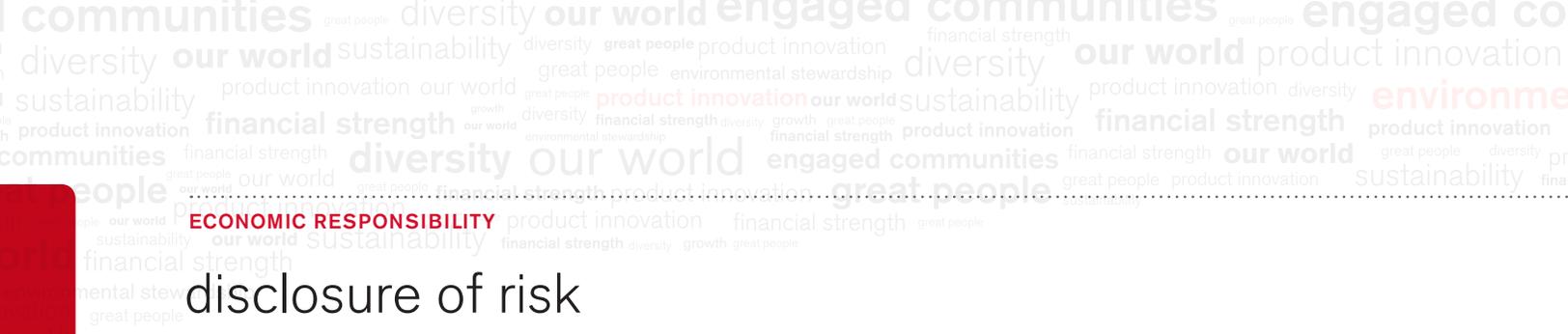
An independent trade union represents 65% of our employees, who are also covered by collective bargaining agreements. To support employees' right to exercise freedom of association and collective bargaining, as of the end of 2016, we had 10 consultations/ negotiations with trade unions over organizational changes, including restructuring and outsourcing.

#### Child Labor and Forced Labor Related Risks

Owens Corning's Human Rights Policy states Owens Corning does not and will not employ child labor or forced, slave, convict or bonded labor. In addition, Owens Corning will not knowingly engage a supplier or distributor, or enter into a joint venture with an organization, that directly or indirectly, through a third party, employs child labor, forced labor or persons who were trafficked into employment.

- Owens Corning defines "child labor" as work or service extracted from anyone under the age of 16, the minimum age for employment in that country, or the age for completing compulsory education in that country, whichever is higher.
- Owens Corning defines "forced labor" as any work or service not voluntarily performed and extracted from an individual under the menace of penalty and/or subject to unduly burdensome conditions such as, but not limited to, the surrender of government-issued identification, passports or work permits, or any other limitations inhibiting the employees' free will with respect to work.
- Owens Corning defines "convict labor" as any labor performed by a legally convicted person on or outside of prison grounds.
- The definitions of "slave labor" and "bonded labor" as defined by Owens Corning are reflected in the Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery under Articles 1 and 7.

Owens Corning supports the participation in legitimate workplace apprenticeship programs, as long as they comply with all applicable laws and are consistent with Articles 6 and 7 of the International Labour Organization (ILO) Minimum Age Convention No. 138 on vocational or technical education and light work.



## ECONOMIC RESPONSIBILITY

# disclosure of risk

Our [Statement on Slavery and Human Trafficking](#) is in compliance with the U.K. Modern Slavery Act of 2015 and the California Transparency in Supply Chains Act of 2010, and articulates our continued practice to disclose information regarding efforts to eradicate slavery and human trafficking from our direct supply chain and internal operations.

Owens Corning updated and strengthened its Human Rights Policy in 2016 to more completely define its position on forced or compulsory labor as well as other aspects of Human Rights. Training on these topics was also updated and provided to all staff and management employees worldwide. In addition, 19% of security personnel, including those employed by third-party organizations, received formal training on the updated policy. A framework for compliance in the human rights areas has been developed and will be implemented in 2017, along with additional training.

We identified country locations where risk of forced or compulsory labor is prevalent according to US State Department and EIRIS data. We mapped both our top segmented suppliers and our own locations to identify the number of locations in higher risk countries. This information provides a basis for continued monitoring for compliance both in evaluating supplier risk and within our own operations. We do not have any cases of forced or compulsory labor identified or reported in 2016. Also there were no human rights risks discovered that required remediation action to be taken in 2016.

## ECONOMIC RESPONSIBILITY

# customer relationship management

At Owens Corning, we strive to provide a customer experience that is second to none. Engaging with our customers plays a vital role in our success and constant improvement. Our product portfolio has continued to evolve to meet our customers' growing needs for quality, value and performance.

### ANTICIPATING CUSTOMER NEEDS

Our new product introductions are a direct result of working with our customers to identify and provide differentiated solutions that help them win in their markets. This provides a great demonstration of Owens Corning's commitment to advancing product leadership on behalf of our customers across the globe. We operate in three segments: Composites, Insulation and Roofing. Because most of our customers are business to business (B2B), we provide them with digital solutions and mobile communications tools to have a productive, flexible working experience with Owens Corning. This helps them to differentiate their businesses and achieve a higher level of environmental stewardship.

### Customer Satisfaction Surveys

We conduct an annual customer satisfaction survey to measure and track satisfaction on a quantitative basis. The survey allows us to measure our performance on several key performance indicators. Results are broken down to the business level and reported to the national leadership team annually.

In 2016, we collected feedback from 1,010 Insulation and Roofing customers and 543 contractors, representing a sample of our distinct customer types and locations. The survey allows us to measure overall satisfaction and the Net Promoter Score (NPS) as well as to go into more detail across customer touch points to help drive specific improvements. Action plans are created as a result of the survey to drive positive change for our customers. The results from these questions help us

identify key drivers of satisfaction and provide areas for more targeted research or action. In 2016, the NPS score was 47 for building materials customers and 66 for contractors in North America, based on an index ranging from -100 to 100.

The primary driver of the Customer Satisfaction Score is the question "All things considered, how would you rate your overall satisfaction with Owens Corning using a scale of 1 to 10 where 1 is Not at All Satisfied and 10 is Completely Satisfied?" Based on the numbers reported, our "completely satisfied" customer score has remained steady or increased since we began measuring it in 2012.

We also leverage a process we call Customer Discovery with select customers to have a more personal, candid conversation about where we are currently in creating value and identify what we can do to create additional value. The Customer Discovery data can be used on an individual customer basis to determine the needs for that particular customer but more often the data are rolled up and analyzed at a market

# customer relationship management

## SUSTAINABILITY IN ACTION



### Insulation Business Receives 'Partners of Choice' Award

In 2016, Owens Corning's Insulation business was awarded the "Partners of Choice" award from Houston-based David Weekley Homes, the largest privately held United States homebuilder. The award marks the fifth time Owens Corning, along with its contractors and distributors, has achieved a top score for maintaining high standards, accountability and quality throughout the supply chain.

"Owens Corning continues to demonstrate a best-in-class ability to consistently deliver high-quality products that arrive accurately and on time due to excellent channel alignment," said Bill Justus, vice president of supply chain services for David Weekley Homes. "We value our long-standing partnership with Owens Corning and respect our shared values in building dreams, enhancing lives and serving our local communities."

The "Partners of Choice" award is part of the homebuilder's world-class supplier evaluation platform, designed to challenge David Weekley Homes' national trading partners to deliver high-quality products at competitive prices.

"Owens Corning is honored to once again be recognized as a partner of choice by David Weekley Homes," said Chris Gibson, director, business development builder strategy at Owens Corning. "We take great pride in providing quality products and superior customer service." ■

**"Owens Corning continues to demonstrate a best-in-class ability to consistently deliver high-quality products that arrive accurately and on time due to excellent channel alignment."**





## ECONOMIC RESPONSIBILITY

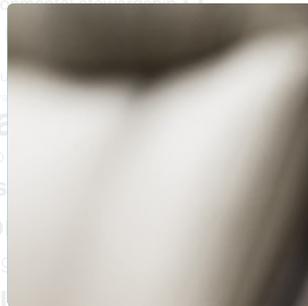
# customer relationship management

All personal data held by Owens Corning must be treated as confidential. We ensure that appropriate security measures are taken against unlawful or unauthorized access to, or processing of, personal data and against the accidental loss of, or damage to, personal data. We also adequately train any individuals who collect, process, manage or handle personal data. Personal data will only be accessed where strictly necessary and only by those with authority to do so.

In 2016, Owens Corning had no incidents related to leaks, thefts or losses of customer data reported and no complaints received concerning breaches of customer privacy from outside parties or regulatory bodies.

### **CUSTOMER RELATIONSHIP MANAGEMENT SYSTEMS**

We have one global customer database, an enterprise-wide SAP system, which tracks order fulfillment and customer service history. The data collected in SAP are analyzed to create the Perfect Order Metrics. These metrics track every aspect of the order that is important to the customer, including order accuracy, timeliness and invoice accuracy. The metrics are used to measure team effectiveness, drive process improvements and promote better alignment to customer needs. Through our online resource center and help-desk service, we track marketing history throughout the enterprise. This system is run separately between our building materials and composites businesses – enabling each business to focus on meeting the specific needs of its distinct customer groups. These businesses have different products with virtually no customer overlap; therefore, linking these systems would provide no additional benefit.



# 7 governance and ethics

CORPORATE GOVERNANCE  
ETHICS



## GOVERNANCE AND ETHICS

# corporate governance

### STRATEGY AND APPROACH

Our Corporate Governance Guidelines, in conjunction with our Certificate of Incorporation, Bylaws and Board committee charters, and Code of Business Conduct, form the framework for our corporate governance.

All of our employees are required to abide by our Code of Business Conduct to ensure that our business is conducted in a consistently legal and ethical manner. These standards form the foundation of a comprehensive process that includes compliance with all corporate policies and procedures and an abiding belief in the integrity of our employees.

Our Code of Business Conduct and Corporate Governance policies are incorporated into the way we work every day with our stakeholders. This framework guides us in conducting ethical business, maintaining strong relationship with our stakeholders and our commitment to our values.

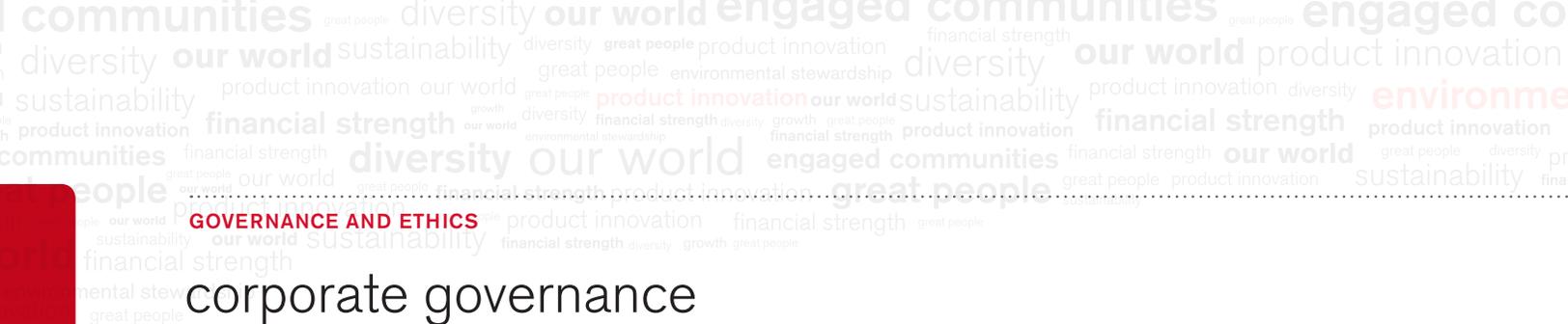
Our [Corporate Governance Guidelines, Policies and Code of Business Conduct](#) can be accessed on our website.

### CORPORATE GOVERNANCE FRAMEWORK

A robust governance framework forms the foundation of long-term relationships with our stakeholders. At Owens Corning, our governance framework brings all of our businesses and associates under a single roof and integrates our values within daily operations. It provides oversight of performance and drives excellence across all of the businesses.

We understand that a strong, responsive and independent board is necessary to ensure adoption of highest governance structure. At Owens Corning, our business, property and affairs are managed under the direction of our Board of Directors. Business-related issues are informed to members of the Board through discussions with our Chief Executive Officer, Chief Financial Officer and other officers, by reviewing materials provided to them, by visiting our offices and plants, and by participating in meetings of the Board and its committees. The members of the Board are expected to regularly attend Board and committee meetings as well as our Annual Meetings of Stockholders.

As per the policy of the Company, the Board consists of a majority of Directors who are independent under all applicable legal, regulatory and stock exchange requirements (“Independent Directors”). The Governance and Nominating Committee has established Director Qualification Standards to assist it in determining Director Independence, which either meet or exceed the independence requirements of the New York Stock Exchange (“NYSE”) corporate governance listing standards. For



## GOVERNANCE AND ETHICS

# corporate governance

a Company Director to be considered independent under the NYSE requirements, the Board must affirmatively determine that such Director does not have any direct or indirect material relationship with the Company other than as a Director. The Governance and Nominating Committee, with the assistance of legal counsel, will consider all relevant facts and circumstances in making an independence determination, and not merely from the standpoint of the Director, but also from that of persons or organizations with which the Director has an affiliation. The Governance and Nominating Committee presents recommendations to the full Board and the Board makes its independence determinations based upon the Governance and Nominating Committee's reports and recommendations.

Each of the Board committees is comprised entirely of Independent Directors, except the Executive Committee. Regular executive sessions of the non-management Directors are held and an evaluation of the Chairman and CEO in several key areas is completed annually by each of the Independent Directors.

**GOVERNANCE AND ETHICS**

# corporate governance

## THE BOARD

In 2016, Owens Corning's Board consisted of one Executive Director and 11 Independent Non-Executive Directors. Among the members, two are from ethnic minority groups.

	Name	Significant Leadership Experience and Corporate Affiliation <sup>(1)</sup>	Gender	Initial Year as Director	Role
1	Mr. Michael H. Thaman	Chairman and CEO of Owens Corning Director of The Sherwin-Williams Company	Male	2002	Executive
2	Mr. Cesar Conde	Chairman of NBCUniversal International Group & NBC Telemundo Enterprises Director of PepsiCo, Inc.	Male	2014	Independent Non-Executive Director
3	Mr. J. Brian Ferguson	Director of Phillips 66	Male	2011	Independent Non-Executive Director
4	Mr. Ralph F. Hake	Former CEO of Maytag Corporation and Amana Appliances	Male	2006	Independent Non-Executive Director
5	Mr. F. Philip Handy	CEO of Winter Park Capital Director of Anixter International, Inc. and Ignite Restaurant Group	Male	2006	Independent Non-Executive Director
6	Ms. Ann Iverson*	Former CEO of Laura Ashley Holdings plc, Mothercare plc and Kay-Bee Toy Stores	Female	2006	Independent Non-Executive Director
7	Mr. Edward F. Lonergan	Executive Chairman, Chairman and Interim CEO of Zep Inc.	Male	2013	Independent Non-Executive Director
8	Ms. Maryann T. Mannen	Executive VP and CFO of TechnipFMC	Female	2014	Independent Non-Executive Director
9	Mr. James J. McMonagle	Of Counsel at Vorys, Sater, Seymour & Pease LLP	Male	2007	Independent Non-Executive Director
10	Mr. W. Howard Morris	President and Chief Investment Officer of The Prairie & Tireman Group	Male	2007	Independent Non-Executive Director
11	Ms. Suzanne P. Nimocks	Director of Encana Corporation, Rowan Companies plc and ArcelorMittal	Female	2012	Independent Non-Executive Director
12	Mr. John D. Williams	CEO and Director of Domtar Corporation	Male	2011	Independent Non-Executive Director

\*As of April 20, 2017, Ms. Iverson retired from the Owens Corning Board of Directors

<sup>(1)</sup> Included are executive positions with other companies and directorships of other public company boards.



## GOVERNANCE AND ETHICS

# corporate governance

All Board members have competency related to economic, environmental and social impacts. The detailed competency of board members, as well as the number of each individual's other significant positions and commitments, the nature of those commitments, and membership of under-represented social groups, can be accessed under the section *Election of Directors* in our [2017 Proxy Statement](#).

Our Corporate Governance Guidelines specify that executive sessions or meetings of non-management Directors without management present must be held regularly (at least three times a year) and at least one meeting must include only Independent Directors. Currently, all of our non-management Directors are independent. During 2016, the Board of Directors met six times. Each Director attended 99% of the meetings of the Board and Board Committees on which he or she served in 2016. Our Lead Independent Director presides over all executive sessions of the Board and of non-management Directors.

## BOARD COMMITTEES

Owens Corning's Board has five committees:

1. Audit Committee
2. Compensation Committee
3. Governance and Nominating Committee
4. Executive Committee
5. Finance Committee

Read more about the Committees of the Board on under the section *Board and Committee Membership* in our [2017 Proxy Statement](#) or on the [Owens Corning website](#).

## NOMINATION AND SELECTION PROCESS OF BOARD MEMBERS

The Board of Directors is responsible for nominating members for election to the Board and for filling vacancies on the Board that may occur between annual meetings of stockholders. The Governance and Nominating Committee is responsible for identifying, evaluating and recommending to the Board individuals qualified to serve as directors of the Corporation and on committees of the Board.

## GOVERNANCE AND ETHICS

# corporate governance

### Director Nomination Process

The Governance and Nominating Committee evaluates potential candidates for Board membership on an ongoing basis. The Committee is authorized to use any methods it deems appropriate for identifying candidates for Board membership, including advice and recommendations from current Board members, outside search firms and stockholders. Where outside search firms are utilized, they assist the Committee in both identifying and evaluating potential nominees.

### Director Qualifications

Pursuant to the Company's Corporate Governance Guidelines, the Governance and Nominating Committee recommends to the Board nominees for Director on the basis of, among other things, experience, knowledge, skills, expertise, mature judgment, acumen, character, integrity, diversity, ability to make independent analytical inquiries, understanding of the Company's business environment, and willingness to devote adequate time and effort to Board responsibilities.

### Consideration of Diversity

Pursuant to its charter, the Governance and Nominating Committee is responsible for identifying and recommending Director nominees consistent with the Director qualification criteria described above, including diversity, so as to enhance the Board's ability to manage and direct the affairs and business of the Company. In identifying Director nominees, the Committee considers diversity as provided in its charter and the Corporate Governance Guidelines. The Committee considers diversity expansively against the charter standard of enhancing the Board's ability to manage and direct the affairs and business of the Company. The effectiveness of this process is assessed annually by the full Board as part of the Board self-evaluation process. The Committee believes that its consideration of diversity effectively implements the charter requirements.

## EVALUATION PROCESS

Each year, the Governance and Nominating Committee facilitates a process to evaluate the effectiveness of the Board, its committees and the Chairman & CEO. The committees all have charters that are reviewed annually. The charters outline responsibilities of each committee and the evaluation process helps the committees to evaluate the efficiency of meeting those responsibilities. The charters can be found on the [Owens Corning website](#).

The Board and its committees complete self-assessment questionnaires and have individual discussions with the Lead Independent Director to evaluate effectiveness in several areas, including composition, structure and processes. The Governance and Nominating Committee uses the results of this process to recommend changes to Board processes, to determine critical skills required of prospective director candidates and to make recommendations for committee assignments.



## GOVERNANCE AND ETHICS

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compensation decisions are based on the core philosophy that compensation must align with and enhance long-term, sustainable growth for our stockholders. Approximately 80% of pay for executive officers is variable, contingent and directly linked to individual and Company Performance. Generally, Company Performance is measured based on financial goals, and Individual Performance is measured based on objectives related to safety, financial objectives, talent management and other factors appropriate for the individual role. For a detailed discussion on Executive Compensation, please review section *Executive Compensation* in our [2017 Proxy Statement](#) on page 22.

Incentive plans are approved by our stockholders and the Compensation Committee is responsible for overseeing the development and administration of our executive compensation program.

## SUSTAINABILITY GOVERNANCE STRUCTURE

Owens Corning has a sustainability governance structure for discussing and making decisions on all aspects of sustainability, including economic, environmental and social aspects. The Audit Committee of the Board of Directors is responsible for reviewing the impact of significant regulatory changes, proposed regulatory changes and accounting or reporting developments, including significant reporting developments related to the principles of sustainability. The Company has a Chief Sustainability Officer (CSO) who reports directly to the CEO and is accountable for the Corporation's compliance with environmental, safety, health and sustainability matters. The CSO heads the sustainability organization, with more than 40 employees who are accountable for product and supply sustainability, building science, operations sustainability, and environmental health and safety. The Company has appointed Frank O'Brien-Bernini as Vice President and Chief Sustainability Officer.

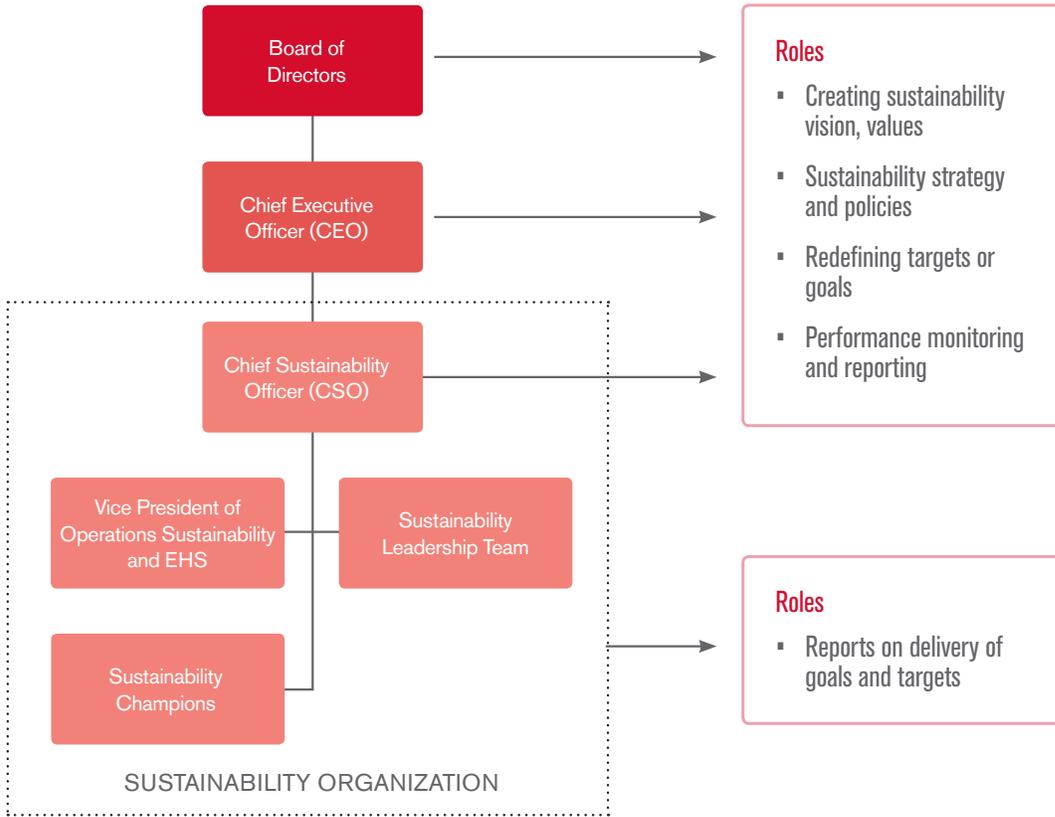
Owens Corning measures success on an ongoing basis in monthly meetings of the Sustainability leadership team, during which the team reviews performance against metrics including percentage of suppliers completing supplier surveys, large-scale greenhouse gas reduction programs, conversion of North American transportation miles to natural gas and improved supplier segmentation. These reviews ensure Owens Corning is focused on the programs that have the largest impact that matter to our stakeholders and the world.

## THE CSO

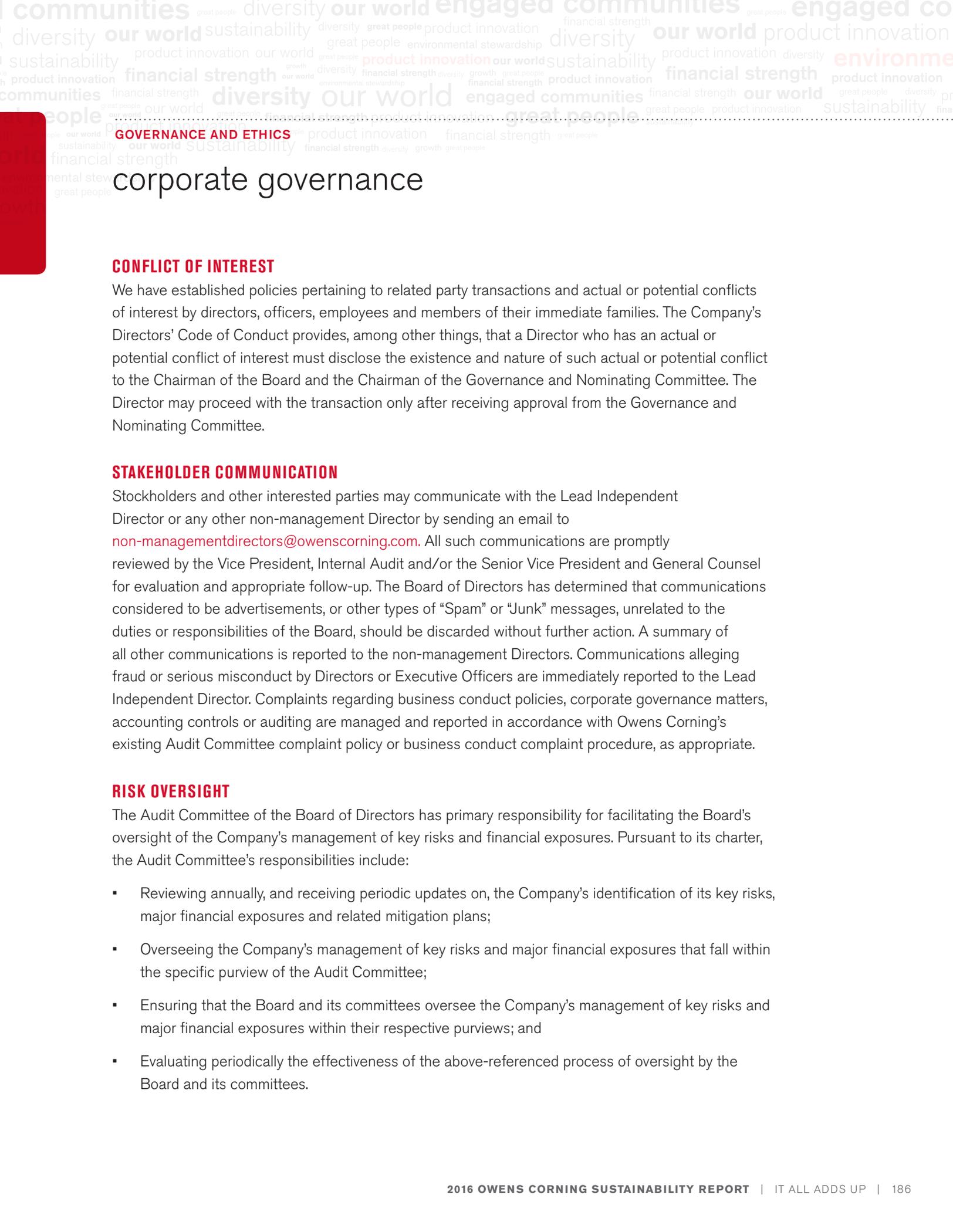
heads the sustainability organization, with more than 40 employees who are accountable for product and supply sustainability, building science, operations sustainability, and environmental health and safety

GOVERNANCE AND ETHICS

# corporate governance



Sustainability Structure



## GOVERNANCE AND ETHICS

# corporate governance

### CONFLICT OF INTEREST

We have established policies pertaining to related party transactions and actual or potential conflicts of interest by directors, officers, employees and members of their immediate families. The Company's Directors' Code of Conduct provides, among other things, that a Director who has an actual or potential conflict of interest must disclose the existence and nature of such actual or potential conflict to the Chairman of the Board and the Chairman of the Governance and Nominating Committee. The Director may proceed with the transaction only after receiving approval from the Governance and Nominating Committee.

### STAKEHOLDER COMMUNICATION

Stockholders and other interested parties may communicate with the Lead Independent Director or any other non-management Director by sending an email to [non-managementdirectors@owenscorning.com](mailto:non-managementdirectors@owenscorning.com). All such communications are promptly reviewed by the Vice President, Internal Audit and/or the Senior Vice President and General Counsel for evaluation and appropriate follow-up. The Board of Directors has determined that communications considered to be advertisements, or other types of "Spam" or "Junk" messages, unrelated to the duties or responsibilities of the Board, should be discarded without further action. A summary of all other communications is reported to the non-management Directors. Communications alleging fraud or serious misconduct by Directors or Executive Officers are immediately reported to the Lead Independent Director. Complaints regarding business conduct policies, corporate governance matters, accounting controls or auditing are managed and reported in accordance with Owens Corning's existing Audit Committee complaint policy or business conduct complaint procedure, as appropriate.

### RISK OVERSIGHT

The Audit Committee of the Board of Directors has primary responsibility for facilitating the Board's oversight of the Company's management of key risks and financial exposures. Pursuant to its charter, the Audit Committee's responsibilities include:

- Reviewing annually, and receiving periodic updates on, the Company's identification of its key risks, major financial exposures and related mitigation plans;
- Overseeing the Company's management of key risks and major financial exposures that fall within the specific purview of the Audit Committee;
- Ensuring that the Board and its committees oversee the Company's management of key risks and major financial exposures within their respective purviews; and
- Evaluating periodically the effectiveness of the above-referenced process of oversight by the Board and its committees.



## GOVERNANCE AND ETHICS

# corporate governance

The Compensation, Finance, and Governance and Nominating Committees of the Board of Directors all review and evaluate risks associated with their respective areas. Each of the Board Committees provides reports concerning its respective risk management activities to the Board of Directors, and the Board considers and discusses such reports.

Owens Corning also has a management Risk Committee that is responsible for overseeing and monitoring the Company's risk assessment and mitigation-related actions. The Risk Committee's membership has broad-based functional representation, including members from the corporate audit, finance, legal, security, treasury and business functions. The Risk Committee provides periodic updates concerning risk to the Executive Officers and to the Audit Committee of the Board of Directors.

# ethics

## STRATEGY AND APPROACH

Conducting business ethically is both an opportunity and a responsibility of every employee. Owens Corning has a reputation for doing the right thing in the products we make, the way we make them and how we interact with others. We preserve and enhance this reputation by acting with integrity and making ethical decisions. Through our actions, we earn the trust of our suppliers, our customers, our co-workers and our investors. The Owens Corning Code of Conduct is a powerful mechanism for assuring a sustainable, respected company.

Our Code applies to every single person at Owens Corning, regardless of position or seniority. By living up to these expectations, we show our stakeholders that we respect them, we respect Owens Corning, and we respect the value of ethical business conduct.

We also expect that our business partners will follow similar principles. We always prefer to work with people and organizations that share our high regard for ethics and integrity.

In addition to our Code and the Company policies that support it, we're also responsible for knowing and following the laws and regulations that apply to our work.

Owens Corning maintains various policies as part of its comprehensive corporate ethics program. Its Code of Conduct applies to all employees. In addition, Owens Corning has specific policies that apply to its Chief Executive and senior financial officers and its Directors. These policies can be reviewed in:

- [Code of Conduct](#)
- [Ethics Policy for Chief Executive and Senior Financial Officers](#)
- [Directors' Code of Conduct](#)
- [Equal Opportunity](#)
- [Non-Harassment](#)
- [Human Rights Policy](#)

## CODE OF CONDUCT

Compliance at Owens Corning means that we all follow our 10 Guiding Principles to Ethical Business Conduct all of the time, with no exceptions. Our Guiding Principles are designed to ensure that employees act with integrity and in an ethical manner, avoiding even the appearance of impropriety. Each guiding principle is supported by one or more Business

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Conduct Policies detailing compliance expectations. Owens Corning's Code of Conduct and 10 Guiding Principles are inspired by and aligned with the United Nations Global Compact, the Universal Declaration of Human Rights, the U.S. Foreign Corrupt Practices Act (FCPA), the United Kingdom Bribery Act, and the Organisation for Economic Co-operation and Development (OECD) Anti-Bribery Convention.

This Code of Conduct applies to Owens Corning, all of its controlled domestic and foreign subsidiaries, and all other legal entities in which Owens Corning has the controlling interest (more than 50% ownership). These policies are made available to employees via the Intranet ("Code of Conduct & Policies"). The Business Conduct Council and Compliance Committee have oversight responsibility for worldwide compliance with these policies.

The Owens Corning Code of Conduct is designed to guide all of us on how to conduct business ethically and comply with all laws. It should be incorporated into the way all employees work every day, with customers, colleagues, suppliers and the public. Our Code of Conduct is an extension of our corporate values, and 100% compliance is an expectation of employment at Owens Corning.

The Code of Conduct is available in 10 languages to ensure understanding and compliance globally. Our legal department mailed physical copies of the Code of Conduct posters to every location for display at all our facilities in the relevant language. All Staff employees are required to take a refresher training course on the Code of Conduct and all Business Conduct Policies.

Following the course, the Staff employees globally are required to certify their compliance, and are given an opportunity to disclose any non-conformance. In addition, managers are expected to lead by example to make sure all employees know and understand the Code of Conduct, other company policies and applicable laws. Owens Corning has devoted approximately 4,735 hours to this training for our Staff employees, which is approximately 30% of our total employees.

Areas covered by the Code include:

- Corruption and bribery
- Discrimination
- Confidentiality of information
- Antitrust/anticompetitive practices
- Money laundering and/or insider trading/dealing
- Environment, health and safety
- Whistle-blowing

## OUR CODE OF CONDUCT

is an extension of our corporate values, and 100% compliance is an expectation of employment at Owens Corning



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### Disclosures

It is company policy to make full, fair, accurate, timely and understandable disclosure, in compliance with all applicable laws, rules and regulations, in all reports and documents that the Company files with, or submits or furnishes to, the Securities and Exchange Commission and in all other public communications made by the Company.

### DIRECTORS' CODE OF CONDUCT

The Directors of Owens Corning adopt the Directors' Code of Conduct to assist directors in fulfilling their duties to the Company. The Directors are entrusted with responsibility to oversee management of the business and affairs of Owens Corning. As the Company's policy-makers, the Directors set the standard of conduct for all directors, officers and employees. Each Director is required to use due care in the performance of his or her duties, be loyal to the Company, and act in good faith and in a manner the Director reasonably believes to be in or not opposed to the best interests of the Company.

A Director should:

- Use reasonable efforts to attend Board and committee meetings regularly;
- Dedicate sufficient time, energy and attention to the Company to ensure diligent performance of his or her duties, including preparing for meetings and decision-making by reviewing in advance any materials distributed and making reasonable inquiries;
- Be aware of and seek to fulfill his or her duties and responsibilities as set forth in the Company's Certificate of Incorporation, Bylaws and corporate governance guidelines; and
- Seek to comply with all applicable laws, regulations, confidentiality obligations and corporate policies.

Read more in the [Owens Corning Directors' Code of Conduct](#).

### EQUAL EMPLOYMENT OPPORTUNITY

It is the policy of Owens Corning to provide employment opportunities without regard to race, color, religion, national origin, age, disability, veteran or military status, pregnancy status, gender, gender identity, sexual orientation or genetic information.

The Company seeks to maintain a highly productive organization of men and women who represent differences in viewpoints, cultures, races and gender, and embraces good ideas produced by that diversity. This will be accomplished through selection and training of qualified people and will provide them with compensation, benefits and opportunities for advancement without discrimination. This policy is subject to the requirements of local laws and regulations.



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In order to provide equal employment and advancement opportunities to all individuals, employment decisions at Owens Corning will be based on merit, qualifications and abilities. Owens Corning does not discriminate in employment opportunities or practices on the basis of race, color, religion, gender, gender identity, sexual orientation, national origin, age, veteran or military status, pregnancy status, disability, genetic information or any other characteristic protected by applicable law. Owens Corning will not tolerate acts of discrimination (which includes harassment).

No hardship, loss of benefits, nor penalty may be imposed on an employee as punishment for filing a good-faith complaint of discrimination or responding to a complaint of discrimination, appearing as a witness in the investigation of a complaint, service as an investigator or otherwise cooperating in a workplace investigation. Retaliation or attempted retaliation is a violation of this Policy and anyone who engages in retaliatory behavior may be subject to discipline. In 2016, the Business Conduct Council reviewed four discrimination complaints. The complaints were investigated and could not be substantiated.

Owens Corning does not and will not employ child labor or forced labor. In addition, Owens Corning will not knowingly engage a supplier or distributor, or enter into a joint venture with an organization that employs or subcontracts child labor or forced labor. Owens Corning defines “child labor” as work or service extracted from anyone under the age of 16 and defines “forced labor” as any work or service not voluntarily performed and extracted from an individual under threat of force.

Owens Corning makes use of a variety of formal and informal processes to address and resolve labor practices at each facility. We believe our processes work well, and all labor practices raised by our employees are resolved. Most are resolved through a peer review or grievance/arbitration process at the local level. Occasionally local grievances require additional input at the divisional or corporate level, and if still not resolved, are definitively decided by a neutral arbitrator. Although the company does not compile the number grievances/complaints filed by employees/unions at each plant each year, we note that it is not unusual for each facility to resolve dozens of such “labor practices” each year, with fewer than 10 total labor practices across Owens Corning requiring use of an arbitrator to reach a final disposition (i.e., grievance withdrawn, granted or settled).

Finally, we note that the company makes use of a robust Business Conduct process whereby employees can anonymously bring potential violations of law or policy to the company's attention. In 2016, the Business Conduct Council reviewed five equal opportunity complaints. The complaints were investigated and could not be substantiated.

Read more in the [Owens Corning Equal Opportunity Policy](#).



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### NON-HARASSMENT

It is the Company's intent that all employees will work in an environment free from harassment on any basis including, but not limited to, harassment on the basis of race, color, sex, age, national origin, veteran or military status, pregnancy status, sexual orientation, gender identity, cultural affiliation, religion, genetic information, physical or mental disability, personal characteristics or circumstances, or any other characteristic protected by applicable law.

Employees at all locations worldwide and at all levels of the Company have the responsibility to avoid any act or actions, implied or explicit, that may suggest any form of harassment of any other person within the workplace, or in a work setting. This includes contractors, vendors, consultants, customers and other non-employees, such as visitors, who have reason to be engaged in business with Owens Corning.

The Company will actively investigate any allegation of harassment, evaluate the conduct and the context of the behavior, and take appropriate action.

Read more in the [Owens Corning Non-Harassment Policy](#).

### HUMAN RIGHTS POLICY

Historically, Owens Corning reviewed human rights impacts in terms of specific aspects (wage, gender, safety, health, employment law) and completed assessments and mitigation plans based on this broad-brush approach through our risk management process.

In 2016, we decided to integrate our existing policies to strengthen the Human Rights Policy and to be more inclusive. A revised Human Rights Policy was adopted in December 2016. The policy covers our entire value chain, including customers, suppliers, contractors and our own operations. Owens Corning created a new position, the Director of Compliance, and this individual, who started on April 25, 2016, is responsible for ensuring compliance with the Human Rights Policy. A more rigorous assessment process, framework and monitoring mechanism were developed in conjunction with the revised policy.

We will be using the enhanced human rights policy to evaluate our current locations as well as any potential acquisitions. As part of our due diligence process for all acquisitions and new facilities, we are doing an assessment that evaluates any potential impacts on vulnerable populations (e.g., tribal lands/indigenous people). Additionally, this policy guides Owens Corning's actions in relationships with any companies or entities.

Owens Corning internally reviewed and verified the acceptance of all contents in the Universal Declaration of Human Rights. The Company has been a signatory to the UN Global Compact since 2010. The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles

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in the areas of human rights, labor, environment and anti-corruption. By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere.

In 2016, we acquired the InterWrap business within our Roofing & Asphalt division. In addition we have been building a plant in Joplin, Missouri, U.S., that will be completed in 2017. Employees from both plants are required to be certified on our Business Code of Conduct, which includes human rights requirements.

Finally our Supplier Code of Conduct covers expectations for any organization or entity that directly provides goods and/or services to Owens Corning. Owens Corning will seek business partners who share the same commitment to human rights and our Guiding Principles. Owens Corning's efforts to address new legislation pertaining to human trafficking and conflict minerals, as well as our vision to become industry leaders in responsible sourcing, prompted us to search for a proactive and pragmatic approach to manage these issues in the supply chain. Learn more in the [Supply Chain Sustainability section](#) in this report.

Read more in the [Owens Corning Human Rights Policy](#).

### SEEKING ADVICE ON ETHICAL AND LAWFUL BEHAVIOR

At Owens Corning, all Staff employees are required to take a refresher training course annually on the Code of Conduct and all Business Conduct Policies. Following the course, the Staff employees are required to certify their compliance, and are given an opportunity to disclose any non-conformance. In addition, managers are expected to lead by example to make sure all employees know and understand the Code of Conduct, other company policies, and applicable laws.

Owens Corning takes all reports of misconduct seriously. If our company learns of wrongdoing, we will act swiftly to correct the problem and prevent future occurrences. Owens Corning makes every effort to ensure that investigations are consistent, comprehensive and confidential to the extent possible, and follow applicable laws. If requested, employees are expected to cooperate in any investigation of possible wrongdoing. If the investigation reveals that misconduct has occurred, Owens Corning may respond as it deems appropriate or necessary, consistent with the law. Depending on the circumstances, this may include training and/or disciplinary action, including termination. Individuals may also be subject to civil or criminal prosecution for violating the law.

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An employee who needs to report his or her concerns and seeks guidance can follow one of the below measures:

1. Talk to a manager, leader or another manager he or she trusts
2. Talk to a Human Resources representative or any Human Resources director
3. Talk to any member of the Business Conduct Council or member of the Legal Department
4. Write a letter to:

**Owens Corning Ethical Business Complaints**  
**Office of the General Counsel 2-29**  
**One Owens Corning Parkway**  
**Toledo, OH 43659**

5. Write an email to: [ethical.business.complaints@owenscorning.com](mailto:ethical.business.complaints@owenscorning.com)
6. Call the confidential Business Conduct Helpline at 1-800-461-9330.
7. Submit the concern online at <http://helpline.owenscorning.com>

It is an expectation of Owens Corning that no employee will face retaliation for making a report in good faith. This is laid out in our Code of Conduct and in our annual training. We conduct regular training and communication on the Company's commitment to open reporting and non-retaliation. This expectation is reinforced with senior business and HR leadership during a quarterly compliance review.

### COMPLAINTS REGARDING ETHICAL BUSINESS PRACTICES

The Company maintains and enforces its policies internally. Breaches are reported to the Audit Committee of the Board of Directors. Employees are disciplined up to and including criminal charges. We disclose any breach as applicable by law.

After extensive reviews, we have found no record of any antitrust breaches in our company's history. We have also had no legal actions for anti-competitive behavior or monopoly practices.

Owens Corning received no fines, penalties or settlements in relation to corruption in 2016. Furthermore, no employees were disciplined or dismissed due to non-compliance with anti-corruption policies in 2016.



## GOVERNANCE AND ETHICS

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### POLITICAL CONTRIBUTIONS

Owens Corning makes political contributions through its Owens Corning Better Government Fund. The Fund is a voluntary, non-profit, unincorporated committee operating as a separate, segregated fund of Owens Corning.

The purpose of the Fund is to provide an opportunity for executive, professional and administrative employees and shareholders of Owens Corning to take part in the American political process. The Fund provides a convenient way for these employees to join a program of political giving so that they may have a united and constructive voice for better government. The Fund shall not directly or indirectly accept any contribution from Owens Corning or any other corporation or political action committee.

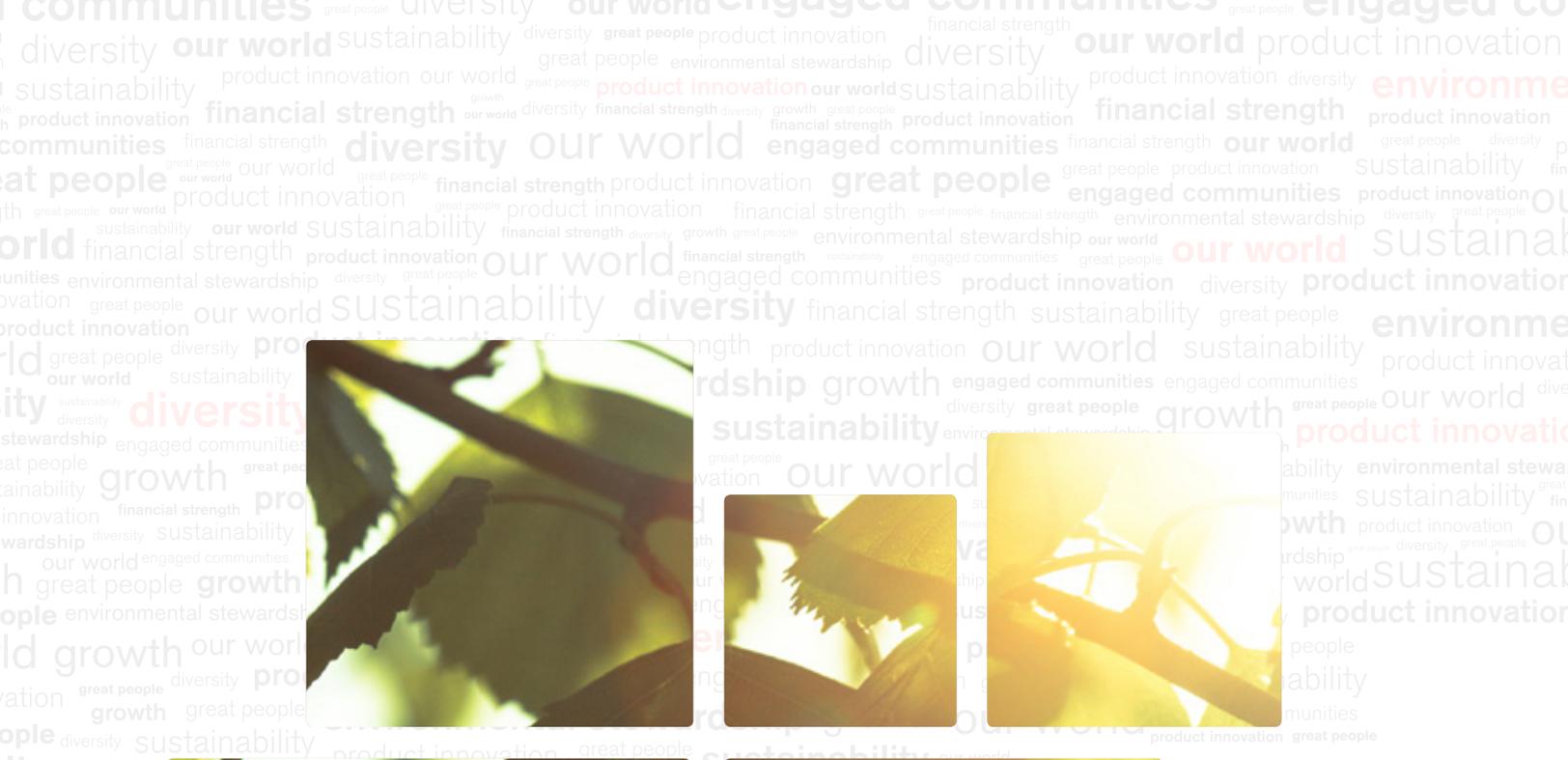
In 2016, the Owens Corning Better Government Fund contributed approximately \$150,000 toward political candidates and organizations. As such, Owens Corning has contributed no funds or dollars toward any political institution.

### ANTI-CORRUPTION

Corruption risks are assessed at the corporate level. We assess 100% of our operations, including those in high-risk countries (as defined by Transparency International), for risks related to corruption.

Corruption is recognized as a risk on Owens Corning's Enterprise and Compliance Risk Registers. The Compliance team completes a Compliance Risk Assessment annually. A ranking is given to each area of compliance risk and plotted on a 9-box risk register. Any topic where the risk is not deemed acceptable has a remedial action plan prepared and assigned to a subject matter expert.

Through the Compliance Risk Assessment, high-risk areas are identified by business, geography, etc. Mitigation plans are developed as applicable. The Compliance team regularly partners with Internal Audit to monitor corruption and bribery risks. Whistleblower hotlines and reporting avenues are available to all employees and are posted at every facility. A systematic risk assessment and mitigation process is conducted for all business expansions.



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## ABOUT THE REPORT

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This is Owens Corning's 11<sup>th</sup> year of publishing an annual sustainability report, and this report reflects the reporting period January 1, 2016 to December 31, 2016. This report was published in June 2017, with our previous report published July 2016. We appreciate the opportunity to share this report with you to explain our deep commitment to, and involvement in, the social, environmental, supply chain, product sustainability and economic sectors that influence the Company.

At Owens Corning, we publish our sustainability report annually. This report was produced in line with GRI G4 guidelines and we have followed the "In accordance – Comprehensive" option to report on the material aspects. We also prepared this report in anticipation of adopting the GRI Standards in the future. Additionally, this report is designed to address disclosures and material issues related to the Carbon Disclosure Project, Dow Jones Sustainability Index, United Nations Sustainable Development Goals and other stakeholders' requests. This enables us to provide an integrated, comprehensive view of our sustainability and social responsibility commitments, progress and activities.

At Owens Corning, we are focused on creating robust business and reporting strategies that align effectively with the needs and priorities of our company and stakeholders. We do this by investing substantial time and effort in understanding, prioritizing and addressing material issues, as well as reporting on them effectively. As such, our materiality matrix was carefully developed to take into consideration different stakeholder needs. In order to stay in lockstep with the changing business context, stakeholder requirements and emerging trends, we regularly review and update our material aspects.

The scope and boundaries of this report are determined by our ability to have operational control over all the facilities and activities that are discussed.

## PRECAUTIONARY APPROACH

Owens Corning has been a signatory to the United Nations Global Compact since 2010. The UN Global Compact is a strategic, voluntary policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, environment and anti-corruption. By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere. Principle 7 of the Global Compact states "Businesses should support a precautionary approach to environmental challenges."

With respect to the precautionary approach, Owens Corning ensures that our products and technology comply with or exceed all applicable laws, regulations and approval standards to protect the environment and human life and health. Our product stewardship programs are designed to ensure integrity of our products and the processes used to develop, produce and

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manage them. Owens Corning is confident that these efforts are consistent with and meet the expectations of the precautionary approach. Read more in our [Product Stewardship Policy](#).

Our approach to the UN's 17 Sustainable Development Goals (SDGs) is a stepwise one where we are identifying how we might 1) have direct impact, 2) have direct influence or 3) have indirect influence. We are also assessing the goals in association with our materiality study, actions already being taken in sustainability, GRI and other reporting, as well as benchmarking other companies.

In addition, Owens Corning publicly states our support for the UN Universal Declaration of Human Rights. The creation of the 30 articles in 1948, which make up the Universal Declaration, was a watershed moment in the history of international human rights. As one of the primary driving forces behind the UN Global Compact, the Universal Declaration of Human Rights is as relevant and impactful as ever. Owens Corning is committed – in both belief & action – to the 10 principles of the Global Compact and the 30 articles of the Universal Declaration of Human Rights. This commitment extends beyond making our products and operations more sustainable. It involves embracing the broader objectives of sustainability as we balance economic growth with social progress and environmental stewardship. In short, we believe that what is good for people and good for our planet is also good for Owens Corning. Our Human Rights Policy was updated and expanded in December 2016 and informs our Supplier Code of Conduct, all in accordance with the principles of the UN Global Compact and the Universal Declaration of Human Rights.

Initiative	Adoption Date	Where Applied	Stakeholder Development	Required by Law/Voluntary
UN Global Compact	2010	Globally	Multi-stakeholder approach to development	Voluntary initiative
UN Universal Declaration of Human Rights	2014	Globally	Multi-stakeholder approach to development	Voluntary initiative



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### ASPECT BOUNDARIES

Owens Corning has elected to respond to all of the material aspects as per GRI G4 guidelines in the 2016 Sustainability Report. The boundary of all these aspects covers our entire global operations including Asia-Pacific, Europe, Latin America, Canada and United States.

Internal boundary includes all Owens Corning plants and offices that are owned and leased. External boundary includes supplier locations, communities and customer locations where Owens Corning has control.

### Significant Changes in Scope

In 2016, we acquired InterWrap, adding eight locations (seven manufacturing and one office) to our Roofing business. In accordance with protocol, we collected or estimated their utility and production data back to our base year of 2010 or the year they opened. All eight locations are included in the baseline and metrics provided in this report.

There have been no material restatements of information provided in this report.

### INVOICE DATA

Invoices are entered electronically into our system and subjected to a number of audits to check both data completeness and data validity. Before data are made available in our Schneider Electric Resource Advisor Solution, invoices are reviewed for missing data, potential overlaps or collisions with existing data, and whether the data should be tracked by a third party. Once posted, the invoice data are reviewed in the context of the surrounding account to verify data entry, charge accuracy, and the overall trend in cost and consumption. Invoices with suspect data are elevated for further review and resolution, also by the third party.

### VARIANCE TESTING

Data that are put into our system go through two variance tests. The first variance test is a check to see if the currently entered value is >2 standard deviations over the average value entered (period for the average is 12 months prior to the current month and 12 months after the current month). The second variance test is to check for consistency in the unit of measure (consistent unit of measure used month over month).

### ONGOING QA/QC

In addition to the measures associated with invoice- and user-provided data, our third-party partner will provide 24 hours per month of support for data management and quality assurance of global sustainability data. The purpose of this ongoing QA/QC is to identify anomalies when reviewing a long-term trending and analysis in a further effort to ensure data accuracy and integrity.



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Owens Corning understands the importance of transparency in disclosure on all of its matrices, KPIs and mechanism of assurance to enhance the reliability of the data. As we move forward, we will externally assure additional topics, prioritizing based on availability of data and importance to stakeholders as observed through our materiality assessment.

## **VERIFICATION SUMMARY**

In 2016, SCS Global Services was engaged by Owens Corning to conduct verification activities for Owens Corning's greenhouse gas (GHG) emissions and energy use against the requirements of the Carbon Disclosure Project and the World Resources Institute (WRI) Corporate Accounting and Reporting Standard, Revised Edition. The verification conducted activities in compliance with ISO 14064-3 for Scope 1 and Scope 2 emissions from January 1, 2016, to December 31, 2016. The statement attests that SCS Global Services provides reasonable assurance. Furthermore, SCS Global Services also verified 100% of our Scope 3 emissions to limited assurance based on the procedures performed and evidence obtained, that no matters have come to the attention of the audit team to cause the verification body to believe that Owens Corning's reported Scope 3 greenhouse gas emissions from January 1, 2016, to December 31, 2016, were materially misstated.

Our approach for an annual baseline adjustment for any minimum threshold of new facility purchase has been verified and audited by a third-party assurance provider. This level of granularity brings in 99.7% accuracy of our emissions data for energy and GHG per our current verification statement.

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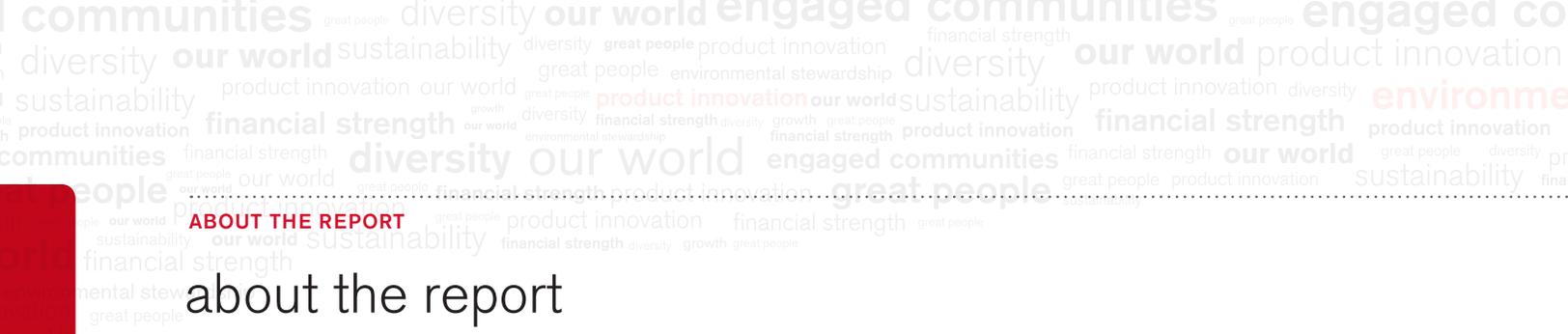
## Assurance Level Summary

Indicator	Level of Assurance
<b>Emissions</b>	
Scope 1 Emissions	Reasonable
Scope 2 Emissions	Reasonable
Scope 3 Emissions	Limited
<b>Water</b>	
Water Withdrawal	Limited
Water Consumption	Limited
Water Evaporation	Limited
<b>Safety</b>	
Safety & Wellness Target	Limited
Lost Time Injuries Frequency Rate – Employees	Limited
Lost Time Injuries Frequency Rate – Contractors	Limited
Occupational Illness Frequency Rate – Employees	Limited
Fatalities – Employees and Contractors	Limited
<b>Community Impact</b>	
Community Impact Target	Limited
Type of Philanthropic Activities	Limited
Input	Limited
<b>Employee Development</b>	
Employee Development Target	Limited
Training and Development	Limited
Human Capital Return on Investment	Limited
<b>Labor Practices</b>	
Diversity	Limited
Equal Remuneration	Limited
<b>Corporate Governance</b>	
Disclosure of Median and Mean Compensation of all Employees and CEO Compensation	Limited

SCS Global Services applies International Standard ISO 14065:2013 – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In accordance with the requirements of ISAE 3000, SCS has complied with the commercial independence and other ethical requirements of the International Standard ISO 14065:2013 – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition, which is founded on the fundamental principles of impartiality, competence, objective decision-making, openness and confidentiality.

To view the verification statements for these indicators, please visit the [Owens Corning sustainability website](#).



**ABOUT THE REPORT**

# about the report

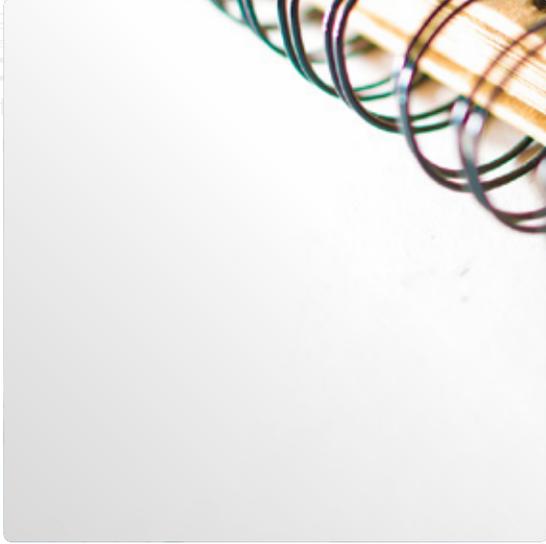
Any questions regarding our reporting processes or this report can be directed to our Chief Sustainability Officer:

**Mr. Frank O'Brien-Bernini**

Vice President and Chief Sustainability Officer

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# appendix



APPENDIX

appendix

Our Partnerships and Collaborations with Organizations/Governing Bodies

	Position in governance bodies	Participates in projects/committees	Provides substantive funds beyond routine membership	Views relationship as strategic
<b>Communities</b>				
Habitat for Humanity International		X	X	X
Local Habitat for Humanity Affiliates	X	X	X	X
United Way		X	X	X
United Way Local Affiliates	X	X	X	X
Good 360			X	X
The Swades Foundation		X	X	X
World Vision			X	X
Marathon Classic (LPGA charitable tournament)	X	X	X	X
Regional Growth Partnership – NW Ohio	X	X	X	X
<b>Government</b>				
EPA's SmartWay Transport Partnership				X
EPA's WasteWise Partnership Program				X
U.S. Department of Energy – Save Energy Now Program				X
EPA's Energy Star				X
<b>Non-Government Organizations</b>				
Element Financial Corp, fleet management				X
Building Performance Institute (BPI)	X	X		X
United Nations Global Compact				X
Natural Resources Defense Council (NRDC)		X		X
Business for Innovative Climate and Energy Policy, a project for CERES (BICEP)		X		X
Science Based Targets Initiative				X
Environmental Defense Fund (EDF) Fellows		X	X	X
American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)	X	X	X	X
National Safety Council	X	X	X	X
Campbell Institute	X	X	X	X
Sustainability and Health Initiative for NetPositive Enterprise (SHINE)		X	X	X
Rocky Mountain Institute-Business Renewables Center				X
Cradle to Cradle Products Innovation Institute		X		X
Procurement Leaders		X		X

**APPENDIX**

	Position in governance bodies	Participates in projects/ committees	Provides substantive funds beyond routine membership	Views relationship as strategic
Alliance to Save Energy				
Residential Energy Services Network (RESNET)	X	X	X	X
U.S. Green Building Council (USGBC)				X
<b>Industry Associations</b>				
American Wind Energy Association (AWEA)		X		X
National Association of Home Builders (NAHB)	X	X	X	X
Home Innovations Research Labs			X	X
Green Building Initiative (GBI)				X
International Living Future Institute		X	X	X
UL Environment		X		X
Business Roundtable	X	X	X	X
Latin America Insulation Manufacturer Association (LAIMA)				X
North America Insulation Manufacturer Association (NAIMA)	X	X	X	X
Asphalt Roofing Manufacturer Association	X	X	X	X
Environments for Living		X		X
American Composites Manufacturing Association	X	X	X	X
India Green Building Council		X		X
Brazil Green Building Council		X		X
Energy and Environmental Building Alliance (EEBA)	X	X	X	X
SouthFace		X	X	X
Insulation Contractors of America Association (ICAA)		X	X	X
Passive House Program (PHIUS)		X		X
American Institute of Architects (AIA)		X	X	X
Ceilings and Interior Systems Construction Association (CISCA)				X
Air Barrier Association of America	X	X		X
Air Diffusion Council		X		X
Construction Specifiers Institute				X
Metal Building Manufacturers Association				X
National Insulation Association				X
Extruded Polystyrene Association		X		X
Heating, Air-Conditioning & Refrigeration Distributors International (HARDI)				X
Refrigeration Engineers & Technicians Association				X
ecoEnergy Innovation Institute (ecoEII)		X	X	X
Ohio Manufacturers Association				X
National Association of Manufacturers				X

**APPENDIX**

	Position in governance bodies	Participates in projects/committees	Provides substantive funds beyond routine membership	Views relationship as strategic
<b>Education</b>				
Dartmouth, Tuck School of Business/Fellowships	X	X	X	X
Michigan State University Supply Chain Management Association		X		X
Ohio State University – Fisher School of Business		X		X

**REPORTING METHODOLOGY**

Owens Corning follows the World Resource Institute (WRI) Corporate Accounting and Reporting Standard for defining and accounting its baseline structure. In 2016, we had over 100 facilities, which are included in the scope and boundary of our reporting. The data for divested facilities are excluded from our company footprint; however, the data for closures are included in our reporting.

Given the guideline of baseline adjustments by WRI, we review all structural changes such as mergers, acquisitions and divestments on an annual basis. Per the stated protocol, the data of mergers or acquisitions greater than 50% are reviewed for accuracy and integrity and then integrated into our reporting inventory from base year to current year. This process of updating the baseline is completed for both the numerator (aspect) and denominator (sales or production) of our calculations. This approach was implemented to ensure a meaningful and consistent comparison of emissions over time, including for the current year.

Please note that numbers have been rounded. Some totals have been affected as a result.

## APPENDIX

### Greenhouse Gases (GHG) Methodology

The organizational and geographical boundaries of the inventory have been identified as follows:

- Owned and leased facilities globally under Owens Corning's operational control.

The physical infrastructure, activities and/or technologies of the inventory are understood as follows:

- Offices, distribution centers, warehouses, manufacturing facilities, fleet vehicles, corporate jet and employee travel.
- Emissions resulting from welding gases and air conditioning have been excluded as de minimis.

The GHG sources have been identified as follows:

- Purchased electricity, natural gas, diesel, jet fuel, gasoline, propane, blowing agents and refrigerants.

Greenhouse gases included in the evaluation are as follows:

- All GHG declared in the Kyoto Protocol (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, HFCs, PFCs, NF<sub>3</sub>).

### GHG Summary

Type	Locations	Calendar Year	Source
Natural Gas	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 1	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 2	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Distillate fuel oil No 6	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Propane	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Coke	All locations	All Years	The Climate Registry: 2015 Gen. Reporting Protocol - USA Industrial
Diesel/Gas Oil	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Motor Gas	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Liquified Petroleum Gas (LPG)	All locations	All Years	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Jet Fuel	All locations	All Years	The Climate Registry: 2015 Gen. Reporting Protocol - USA Industrial
Limestone	All locations	All Years	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Dolomite	All locations	All Years	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Soda Ash	All locations	All Years	IPCC Mineral Industry Emissions Chapter 2 V3 publication 2006
Blowing Agents	All locations	2010-2015	US EPA Class II Ozone-depleting Substances
Blowing Agents	All locations	2016	IPCC Fourth Assessment Report: Climate Change 2007
Electricity	Non-US	2016	International Energy Agency (IEA): CO <sub>2</sub> Emissions from Fuel Combustion 2016-Year 2014
Electricity	US	2016	US EPA eGRID 2017 (w/2014 data)
Electricity	Non-US	2015	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2015-Year 2013
Electricity	US	2015	US EPA eGRID 2015 (w/2012 data)
Electricity	Non-US	2014	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009

## APPENDIX

Type	Locations	Calendar Year	Source
Electricity	US	2014	US EPA eGRID eGRID 2014 v1.0 (w/2010 data)
Electricity	Non-US	2013	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2013	US EPA eGRID eGRID 2014 v1.0 (w/2010 data)
Electricity	Non-US	2012	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2012	US EPA eGRID eGRID 2012 v1.0 (w/2009 data)
Electricity	Non-US	2011	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2011	US EPA eGRID eGRID 2010 V1.0 (w/2007 Data)
Electricity	Non-US	2010	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2010	US EPA eGRID eGRID 2007 V1.1 (w/2005 data)
Leased Facilities	Warehouse	All Years	Energy Star Portfolio Manager - Energy Star Score for Warehouses in the United States; publication 7/13
Leased Facilities	Office/Other	All Years	Energy Star Portfolio Manager - Energy Use in Office Buildings; publication 10/2012

## Energy Methodology

The table below shows how Owens Corning has defined primary energy and electricity in this report:

## Energy Summary

Type	Locations	Calendar Year	Source
Primary Energy	All facilities	All Years	US EPA Better Plants: Primary Energy Accounting Methodology; revised 2/2015
Electricity	Non-US	2016	International Energy Agency (IEA): CO <sub>2</sub> Emissions from Fuel Combustion 2016-Year 2014
Electricity	US	2016	US EPA eGRID 2017 (w/2014 data)
Electricity	Non-US	2015	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2015-Year 2013
Electricity	US	2015	US EPA eGRID eGRID 2015 (w/2012 data)
Electricity	Non-US	2014	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2014	US EPA eGRID eGRID 2014 v1.0 (w/2010 data)
Electricity	Non-US	2013	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2013	US EPA eGRID eGRID 2014 v1.0 (w/2010 data)
Electricity	Non-US	2012	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2012	US EPA eGRID eGRID 2012 v1.0 (w/2009 data)
Electricity	Non-US	2011	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2011	US EPA eGRID eGRID 2010 V1.0 (w/2007 Data)

## APPENDIX

Type	Locations	Calendar Year	Source
Electricity	Non-US	2010	International Energy Agency (IEA) CO <sub>2</sub> Emissions from Fuel Combustion 2011- Year 2009
Electricity	US	2010	US EPA eGRID eGRID 2007 V1.1 (w/2005 data)
Leased Facilities	Warehouse	All Years	Energy Star Portfolio Manager - Energy Star Score for Warehouses in the United States; publication 7/13
Leased Facilities	Office/Other	All Years	Energy Star Portfolio Manager - Energy Use in Office Buildings; publication 10/2012

### Scope 3 Sources:

2016 Form 10-K

<http://www.eiolca.net/cgi-bin/dft/use.pl>

<https://www.census.gov/eos/www/naics/>

[http://stats.areppim.com/calc/calc\\_usdrlxdeflator.php](http://stats.areppim.com/calc/calc_usdrlxdeflator.php)

### ADDITIONAL EMISSIONS DATA

2016 Owens Corning's NO<sub>x</sub>, SO<sub>x</sub> and VOC Emissions Normalized Intensity

	Intensity in Metric Tons (per unit of product produced)
NO <sub>x</sub>	0.00052
SO <sub>x</sub>	0.00041
VOC	0.00070

2016 NO<sub>x</sub>, SO<sub>x</sub>, and VOC Emissions by Business (metric tons)

	Composites	Other	Total
NO <sub>x</sub>	794	694	1,488
SO <sub>x</sub>	656	989	1,646
VOC	1,112	964	2,076

2016 Normalized Indirect Emissions (Market Based)

	Metric Tons CO <sub>2</sub> e	Normalized Amount
Indirect Emissions	1,388,792	0.20509

*Intensity is normalized based on MT of product produced*

2016 Normalized Methane Emissions (Market Based)

	Metric Tons CO <sub>2</sub> e	Normalized Amount
Methane	1,642	0.00024

*Intensity is normalized based on MT of product produced*

**APPENDIX**

2016 Methane Emissions (Market Based) (metric tons CO<sub>2</sub>e)

	North America	Outside North America	Total
Methane	1,420	222	1,642

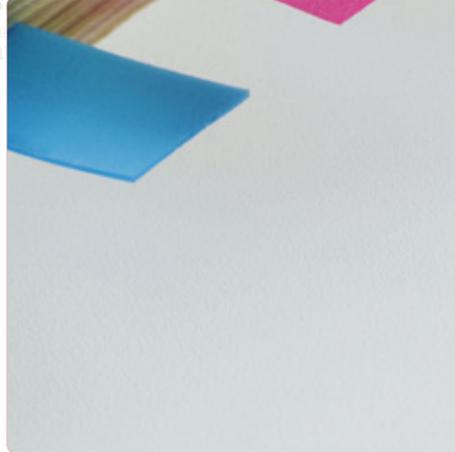
2016 Direct CO<sub>2</sub> Emissions (metric tons)

	North America	Outside North America	Total
Direct CO <sub>2</sub> Emissions	673,932.26	512,755.14	1,186,687.39
Normalized Emissions			0.1752

*Intensity is normalized based on MT of product produced*

2016 Indirect CO<sub>2</sub> Emissions (metric tons)

	North America	Outside North America	Total
Indirect CO <sub>2</sub> Emissions	937,708.68	448,164.49	1,385,873.18



# GRI G4 index



**GRI G4 INDEX**

# GRI G4 index

This report was prepared in line with the Global Reporting Initiative's (GRI) G4 guidelines and follows the "In accordance – Comprehensive" option. We also prepared this report in anticipation of adopting the GRI Standards in the future. GRI is a voluntary, international framework that provides guidance to organizations on non-financial reporting. In addition, this report highlights our alignment with the United Nations Sustainable Development Goals (SDGs).

G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>G4-1</b>	Statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	Introduction	5-7	
<b>G4-2</b>	Description of key risks and opportunities	Disclosure of Risk	167-170	
<b>Organizational Profile</b>				
<b>G4-3</b>	Name of the organization	Company Profile	10	
<b>G4-4</b>	Primary brands, products and services	Company Profile	12-13	
<b>G4-5</b>	Location of the organization's headquarters	Company Profile	13	
<b>G4-6</b>	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	Company Profile	11	
<b>G4-7</b>	Nature of ownership and legal form	Company Profile	10	
<b>G4-8</b>	Markets served	Company Profile	10	
<b>G4-9</b>	Scale of reporting organization	Company Profile	10	
<b>G4-10</b>	Total number of employees	Diversity and Inclusion	115	SDG #8 Decent Work and Economic Growth
<b>G4-11</b>	Percentage of total employees covered by collective bargaining agreements	Employee Training and Development	108	SDG #8 Decent Work and Economic Growth
<b>G4-12</b>	Description of the organization's supply chain	Supply Chain Sustainability	153-156	
<b>G4-13</b>	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	Supply Chain Sustainability	153	
<b>G4-14</b>	Explanation of whether and how the precautionary approach or principle is addressed by the organization	About the Report	198-199	
<b>G4-15</b>	List of externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	About the Report	198-199	
<b>G4-16</b>	Memberships of associations (such as industry associations) and national or international advocacy organizations	Appendix	205	

**GRI G4 INDEX**

G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>Identified Material Aspects and Boundaries</b>				
G4-17	Operational Structure of the organization	Company Profile	10-11	
G4-18	Details on report content and aspect boundaries	About the Report	200	
G4-19	All material Aspects identified in the process for defining report content	Materiality Assessment	15	
G4-20	Aspect Boundary within the organization	About the Report	200	
G4-21	Aspect Boundary outside the organization	About the Report	200	
G4-22	Explanation of the effect of any restatements of information provided in previous reports, and the reasons for such restatements	About the Report	200	
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	About the Report	200	
<b>Stakeholder Engagement</b>				
G4-24	List of stakeholder groups engaged by the organization	Materiality Assessment	14	
G4-25	Basis for identification and selection of stakeholders with whom to engage	Materiality Assessment	14	
G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	Materiality Assessment	14-17	
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	Materiality Assessment	14-15	
<b>Report Profile</b>				
G4-28	Reporting period (such as fiscal or calendar year) for information provided	About the Report	198	
G4-29	Date of most recent previous report	About the Report	198	
G4-30	Reporting cycle	About the Report	198	
G4-31	Contact point for questions regarding the report or its contents	About the Report	203	
G4-32-a	In accordance' option the organization has chosen	About the Report	198	
G4-32-b	GRI Content Index	GRI Index	213-222	
G4-32-c	Reference to the External Assurance Report	About the Report	201-202	
G4-33	Policy and current practice with regard to seeking Independent assurance for the report	About the Report	201-202	



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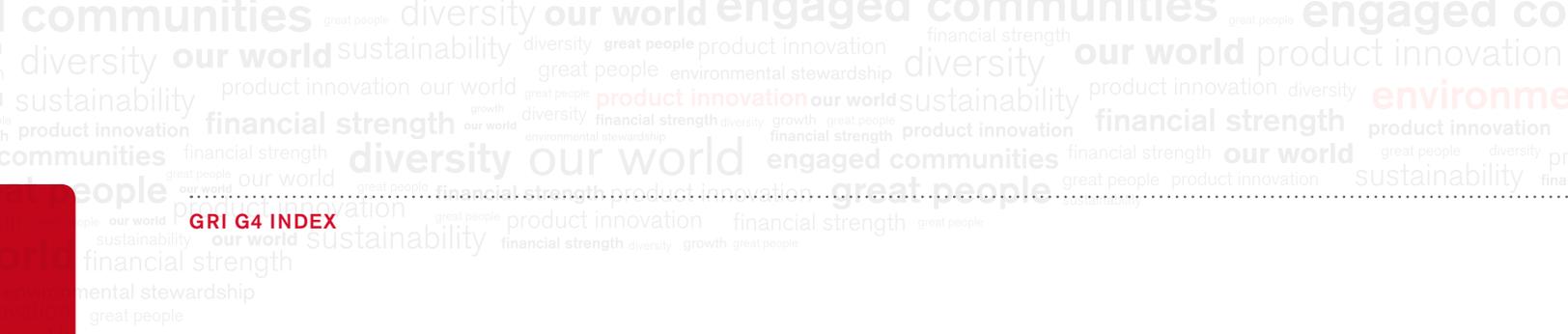
G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>Governance</b>				
<b>G4-34</b>	Governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	Corporate Governance	181	
<b>G4-35</b>	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	Corporate Governance	184-185	
<b>G4-36</b>	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	Corporate Governance	184-185	
<b>G4-37</b>	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	Corporate Governance	186	SDG #16 Peace, Justice and Strong Institutions
<b>G4-38</b>	Report the composition of the highest governance body and its committees	Corporate Governance	180-181	SDG #5 Gender Equality SDG #16 Peace, Justice and Strong Institutions
<b>G4-39</b>	Report whether the Chair of the highest governance body is also an executive officer	Corporate Governance	183	SDG #16 Peace, Justice and Strong Institutions*
<b>G4-40</b>	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members	Corporate Governance	181-182	SDG #5 Gender Equality SDG #16 Peace, Justice and Strong Institutions
<b>G4-41</b>	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders	Corporate Governance	186	SDG #16 Peace, Justice and Strong Institutions
<b>G4-42</b>	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	Corporate Governance - not complete	184-185	
<b>G4-43</b>	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	Corporate Governance	183	SDG #4 Quality Education
<b>G4-44</b>	Report the processes for and actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency	Corporate Governance - not complete	182-183	
<b>G4-45</b>	Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities; Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities	Disclosure of Risk; Corporate Governance	165-166; 186-187	SDG #16 Peace, Justice and Strong Institutions

**GRI G4 INDEX**

G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>G4-46</b>	Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics	Disclosure of Risk; Corporate Governance	166; 181	
<b>G4-47</b>	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	Disclosure of Risk; Corporate Governance	166; 186-187	
<b>G4-48</b>	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	Corporate Governance	184	
<b>G4-49</b>	Report the process for communicating critical concerns to the highest governance body	Ethics	194-195	
<b>G4-50</b>	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	Corporate Governance	186	
<b>G4-51</b>	Report the remuneration policies for the highest governance body and senior executives for types of remuneration; Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives	Corporate Governance	183-184	
<b>G4-52</b>	Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organization	See page 16 in our <a href="#">2017 Proxy Statement</a>	—	
<b>G4-53</b>	Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable	See page 16 in our <a href="#">2017 Proxy Statement</a>	—	SDG # 16 Peace, Justice and Strong Institutions
<b>Ethics and Integrity</b>				
<b>G4-56</b>	Description of the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	Ethics	188-189	SDG # 16 Peace, Justice and Strong Institutions
<b>G4-57</b>	Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	Ethics	194-195	SDG # 16 Peace, Justice and Strong Institutions
<b>G4-58</b>	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	Ethics	194-195	SDG # 16 Peace, Justice and Strong Institutions

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G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>Economic</b>				
G4-EC1	Direct economic value generated and distributed	Economic Impact	161	SDG #2 Zero Hunger SDG #5 Gender Equality SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #9 Industry, Innovation and Infrastructure
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Disclosure of Risk	170	SDG #13 Climate Action
G4-EC3	Coverage of the organization's defined benefit plan obligations	Economic Impact	162	
G4-EC4	Financial assistance received from government	Economic Impact	163	
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	Economic Impact	163-164	SDG #1 No Poverty SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	Economic Impact	164	SDG #8 Decent Work and Economic Growth
G4-EC7	Development and impact of infrastructure investments and services supported	Community Impact	142-145	SDG #2 Zero Hunger SDG #5 Gender Equality SDG #7 Affordable and Clean Energy SDG #9 Industry, Innovation and Infrastructure SDG #11 Sustainable Cities and Communities
G4-EC8	Significant indirect economic impacts, including the extent of impacts	Community Impact	143-150	SDG #1 No Poverty SDG #2 Zero Hunger SDG #3 Good Health and Well-being SDG #8 Decent Work and Economic Growth SDG #10 Reduced Inequalities SDG #17 Partnerships for the Goals
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	Supply Chain Sustainability	158	SDG #12 Responsible Consumption and Production
<b>Environmental</b>				
G4-EN1	Materials use by weight or volume	Product Sustainability	38	SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production
G4-EN2	Percentage of materials used that are recycled input materials	Product Sustainability	38	SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production
G4-EN3	Energy consumption within the organization	Energy	52	SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production SDG #13 Climate Action
G4-EN4	Energy consumption outside of the organization	Energy	56	SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production SDG #13 Climate Action
G4-EN5	Energy intensity ratio for the organization	Energy	55	SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production SDG #13 Climate Action
G4-EN6	Reduction of energy consumption	Energy	55	SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production SDG #13 Climate Action



**GRI G4 INDEX**

G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>G4-EN7</b>	Reductions in energy requirements of products and services	Energy	57	SDG #7 Affordable and Clean Energy SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production SDG #13 Climate Action
<b>G4-EN8</b>	Total water withdrawal by source	Water	75	SDG #6 Clean Water and Sanitation
<b>G4-EN9</b>	Water sources significantly affected by withdrawal of water	Water	79	SDG #6 Clean Water and Sanitation
<b>G4-EN10</b>	Percentage and total volume of water recycled and reused	Water	77	SDG #6 Clean Water and Sanitation SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production
<b>G4-EN11</b>	Operational sites owned, leased, managed in, or adjacent to, protected areas of high biodiversity value outside protected areas	Protecting Biodiversity	94-95	SDG #6 Clean Water and Sanitation SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN12</b>	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	Protecting Biodiversity	94-95	SDG #6 Clean Water and Sanitation SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN13</b>	Habitats protected or restored	Protecting Biodiversity	94-95	SDG #6 Clean Water and Sanitation SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN14</b>	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	Protecting Biodiversity	94-95	SDG #6 Clean Water and Sanitation SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN15</b>	Direct greenhouse gas (GHG) emissions (Scope 1)	Emissions	61	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production SDG #13 Climate Action SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN16</b>	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	Emissions	62	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production SDG #13 Climate Action SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN17</b>	Other indirect Greenhouse Gas (GHG) emissions (Scope 3)	Emissions	63	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production SDG #13 Climate Action SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN18</b>	Greenhouse gas (GHG) emissions intensity	Emissions	65	SDG #3 Good Health and Well-being SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN19</b>	Reduction of greenhouse gas (GHG) emissions	Emissions	66	SDG #3 Good Health and Well-being SDG #14 Life Below Water SDG #15 Life on Land
<b>G4-EN20</b>	Emissions of ozone-depleting substances (ODS)	Emissions	67	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production
<b>G4-EN21</b>	NOx, SOx, and other significant air emissions	Emissions	68-71	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production SDG #14 Life Below Water SDG #15 Life on Land

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G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
G4-EN22	Total water discharge by quality and destination	Water	78-79	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production SDG #14 Life Below Water
G4-EN23	Total weight of waste by type and disposal method	Waste	88-89	SDG #3 Good Health and Well-being SDG #6 Clean Water and Sanitation SDG #12 Responsible Consumption and Production
G4-EN24	Total number and volume of significant spills	Waste	93	SDG #3 Good Health and Well-being SDG #6 Clean Water and Sanitation SDG #12 Responsible Consumption and Production SDG #14 Life Below Water SDG #15 Life on Land
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	Waste	89-90	SDG #3 Good Health and Well-being SDG #12 Responsible Consumption and Production
G4-EN26	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	Water	80	SDG #6 Clean Water and Sanitation SDG #14 Life Below Water SDG #15 Life on Land
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	Product Sustainability	42	SDG #8 Decent Work and Economic Growth SDG #12 Responsible Consumption and Production
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	No issues of non-compliance	—	SDG #16 Peace, Justice and Strong Institutions
G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Supply Chain Sustainability	152-153	SDG #11 Sustainable Cities and Communities SDG #12 Responsible Consumption and Production SDG #13 Climate Action
G4-EN31	Total environmental protection expenditures and investments by type	Environmental Control	98-99	SDG #7 Affordable and Clean Energy SDG #9 Industry, Innovation and Infrastructure SDG #12 Responsible Consumption and Production SDG #13 Climate Action SDG #14 Life Below Water SDG #15 Life on Land SDG #17 Partnerships for the Goals
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	Supply Chain Sustainability	158	
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	Supply Chain Sustainability	159	
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	Product Sustainability	40	SDG #16 Peace, Justice and Strong Institutions

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G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
<b>Social</b>				
<b>G4-LA1</b>	Total number and rates of new employee hires and employee turnover by age group, gender and region	Diversity and Inclusion	116	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
<b>G4-LA2</b>	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	See Owens Corning's <a href="#">Benefits Page</a>	—	SDG #8 Decent Work and Economic Growth
<b>G4-LA3</b>	Return to work and retention rates after parental leave, by gender	Employee Training and Development	107-108	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
<b>G4-LA4</b>	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	Employee Training and Development	109	SDG #8 Decent Work and Economic Growth
<b>G4-LA5</b>	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	Living Safely	124-130	SDG #8 Decent Work and Economic Growth
<b>G4-LA6</b>	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	Living Safely	134-138	SDG #3 Good Health and Well-being SDG #8 Decent Work and Economic Growth
<b>G4-LA7</b>	Workers with high incidence or high risk of diseases related to their occupation	Living Safely	124; 127	SDG #3 Good Health and Well-being SDG #8 Decent Work and Economic Growth
<b>G4-LA8</b>	Health and safety topics covered in formal agreements with trade unions	Employee Training and Development	108-109	SDG #8 Decent Work and Economic Growth
<b>G4-LA9</b>	Average hours of training per year per employee by gender, and by employee category	Employee Training and Development	104	SDG #4 Quality Education SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
<b>G4-LA10</b>	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	Employee Training and Development	103-104	SDG #8 Decent Work and Economic Growth
<b>G4-LA11</b>	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	Employee Training and Development	105	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
<b>G4-LA12</b>	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity	Diversity and Inclusion; Corporate Governance	115; 180	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth
<b>G4-LA13</b>	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	Employee Training and Development; Diversity and Inclusion	105-106; 117	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth SDG #10 Reduced Inequalities
<b>G4-LA14</b>	Percentage of new suppliers that were screened using labor practices criteria	Supply Chain Sustainability	158	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth SDG #16 Peace, Justice and Strong Institutions
<b>G4-LA15</b>	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	Supply Chain Sustainability	159	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth SDG #16 Peace, Justice and Strong Institutions
<b>G4-LA16</b>	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	Ethics	192	SDG #16 Peace, Justice and Strong Institutions

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G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Ethics	193-194	
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	Ethics	189	
G4-HR3	Total number of incidents of discrimination and corrective actions taken	Ethics	192	SDG #5 Gender Equality SDG #8 Decent Work and Economic Growth SDG #16 Peace, Justice and Strong Institutions
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	Disclosure of Risk	171	SDG #8 Decent Work and Economic Growth
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	Disclosure of Risk; Ethics	171; 192	SDG #8 Decent Work and Economic Growth SDG #16 Peace, Justice and Strong Institutions
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	Disclosure of Risk; Ethics	171; 192	SDG #8 Decent Work and Economic Growth
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	Disclosure of Risk	172	SDG #16 Peace, Justice and Strong Institutions
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	No reported incidents	—	SDG #2 Zero Hunger
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	Ethics	189	
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	Supply Chain Sustainability	158	
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	Supply Chain Sustainability	159	
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	No reported grievances	—	SDG #16 Peace, Justice and Strong Institutions
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	Community Impact	144	
G4-SO2	Operations with significant actual or potential negative impacts on local communities	Community Impact	150	SDG #1 No Poverty SDG #2 Zero Hunger
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	Ethics	196	SDG #16 Peace, Justice and Strong Institutions
G4-SO4	Communication and training on anti-corruption policies and procedures	Ethics	188-190	SDG #16 Peace, Justice and Strong Institutions
G4-SO5	Confirmed incidents of corruption and actions taken	Ethics	195	SDG #16 Peace, Justice and Strong Institutions

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G4 Disclosure	Description	2016 Report Section	Page Numbers	SDG Target Linkage
G4-SO6	Total value of political contributions by country and recipient/beneficiary	Ethics	196	SDG #16 Peace, Justice and Strong Institutions
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Ethics	195	SDG #16 Peace, Justice and Strong Institutions
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No issues of non-compliance	—	SDG #16 Peace, Justice and Strong Institutions
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	Supply Chain Sustainability	158	
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	Supply Chain Sustainability	159	
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	No reported grievances	—	SDG #16 Peace, Justice and Strong Institutions
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Product Sustainability	41	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	No issues of non-compliance	—	SDG 16 Peace, Justice, Inclusive...: Regulatory Compliance
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant products and service categories subject to such information requirements	Product Sustainability	42	SDG #12 Responsible Consumption and Production
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Product Sustainability	42	SDG #16 Peace, Justice and Strong Institutions
G4-PR5	Results of surveys measuring customer satisfaction	Customer Relationship Management	173-175	
G4-PR6	Sale of banned or disputed products	Product Sustainability	40	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	No issues of non-compliance	—	SDG #16 Peace, Justice and Strong Institutions
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Customer Relationship Management	175-176	SDG #16 Peace, Justice and Strong Institutions
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No issues of non-compliance	—	SDG #16 Peace, Justice and Strong Institutions