



# 2015 OWENS CORNING Global Reporting Initiative Report



## TABLE OF CONTENTS

General Disclosure	2
Stakeholder Engagement and Materiality Determination	31
Economic Responsibility	48
Economic Impact	
Disclosure of Risk	
Customer Relationship Management	
Environmental Responsibility	66
Energy	
Emission	
Water Management	
Waste Management	
Social Responsibility	112
Employee Development	
Safety and Wellness	
Community Impact	
Product Stewardship and Supply Chain	134
Product Sustainability	
Sustainable Supply Chain	
Recycled Material	
Building Science	149
Product Innovation	154

## About the Report

This is our 10th year of publishing a sustainability report; this time, for reporting period January 1, 2015 to December 31, 2015. At Owens Corning we publish our sustainability report annually with our last published report published in July of 2015 for calendar year 2014.

We take great pleasure in creating this report and in explaining our deep involvement in the social, environmental, supply chain, product sustainability, and economic sectors that influence the Company. This report is in line with GRI G4 guidelines and we have followed 'In accordance' – Core option to report on the material aspects.

A materiality grid was formed taking into consideration different stakeholder needs. 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. 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 based on operational control.

During 2015, SCS Verification program conducted a verification of Owens Corning's EY 2015 greenhouse gas (GHG) emissions and energy use against the requirements of the Carbon Disclosure Project and the WRI/WBCSD GHG Protocol: A 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, 2015 to December 31, 2015. The statement attests that SCS Global Services provides reasonable assurance. For the first year SCS Global Services 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, 2015 to December 31, 2015 were materially misstated. In keeping with our practice of continuous improvement, SCS Global Services verified several of our social KPIs for the first time to limited assurance in 2015.

## 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 is 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 3rd party. Once posted, the invoice data is 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 3rd party.

## Variance Testing

Data that is imputed into our system goes 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 3rd 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.

Owens Corning understands the importance of transparency in disclosure on all 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.

Any questions regarding our reporting processes or this report can be directed to our Chief Sustainability Officer:

Mr. Frank O'Brien-Bernini  
Chief Sustainability Officer and Vice President  
Phone: 1.419.248.8000  
Email: [sustainability@owenscorning.com](mailto:sustainability@owenscorning.com)

## Message from our CEO and CSO

At Owens Corning, expanding our impact through sustainability is a core value and an essential element of our business. Our commitment to sustainability begins with the recognition that the foundation of a sustainable enterprise is built on financial strength, environmental stewardship, great and relevant products, innovative thinking and sustainable talent. We recognize that it is not merely sufficient to reduce our footprint on the planet, but must also expand our handprint through our strategies and actions.

In 2015 we continued the steady progress of reducing our footprint and expanding our handprint. Having met our 2020 greenhouse gas reduction goal early, we significantly increased our goal using science-based target setting methodology. While much progress was made in 2015, our journey does not end and we continue to pursue initiatives that will help us advance our strategy and expand our positive impact around the globe.

Our focus in the coming years will be to:

- Scale our impact in energy efficiency collaboration in residential and commercial buildings;
- Advance our global renewable energy strategies;
- Focus on further reducing our greenhouse gas emissions through primary energy use reduction and substitutions in our foam blowing agents;
- Reduce our manufacturing waste generation and develop larger scale recycling options for glass fiber waste in our operations;
- Engage our employees and customers in responding to the needs of communities throughout the globe where we operate;
- Accelerate our wellness progress around the world;
- Continue our progress toward zero injuries; and
- Increase our net-positive impact by growing our global company.

We invite you to review the highlights of our progress this past year against our strategic pillars, and then further explore our web-based 2015 Sustainability Report to learn of our progress and track our performance against our goals.

Michael H. Thaman  
Chairman and CEO

Frank O'Brien-Bernini  
Chief Sustainability Officer

# Our 2015 Sustainability Achievements

## Operations Sustainability

- Met our 2020 greenhouse gas and toxic air emissions goals ahead of schedule. We announced increased 2020 commitments of 50 percent and 75 percent reductions for these environmental impacts respectively, and incorporated science-based greenhouse gas target-setting methodology into our strategy.
- Completed purchase agreements for 250 megawatts of wind energy, the largest of any industrial company in the world at the time. This will generate the equivalent electricity for more than 65,000 U.S. homes.
- Installed a 2.4 megawatt photovoltaic canopy over the entire employee parking lot at the headquarters, in Toledo, Ohio. The largest system of its kind in the Midwest United States.
- Completed an agreement that will enable our newest plant, in Gastonia, North Carolina, to meet its zero waste to landfill goal.

## Product and Supply Chain Sustainability

- Met our 2015 product transparency goal by completing Life Cycle Assessments and/or Environmental Product Declarations on all core products, and produced industry-first Cradle to Cradle Material Health Certifications, now recognized in the LEED green building standards.
- Completed the largest capital investment project in its history with the construction of the nonwovens plant in Gastonia, North Carolina. The plant will produce an exclusive innovative portfolio of formaldehyde free products, like the biobased Sustaina® line, for various building product applications.
- Facilitated the recycling of 2.5 billion pounds of end-of-life shingles through our networks, a 4 percent year-over-year increase, and 1.4 billion pounds of glass into our Insulation products, a 7 percent year-over-year increase. We have continued our progress in growing shingle recycling, and continue to work with others on business and technical innovations that will further advance this important recycling stream.
- Established a code of conduct for our key suppliers with an expectation that they have a strategy to improve their environmental performance.

## Energy Efficiency and Durable Material Solutions at Scale

- Used our building science expertise, in collaboration with builders across North America, to routinely build cost-effective, market-leading energy efficient homes using our new high performance insulation and air sealing innovations. Our building science team was instrumental in the design, construction and marketing of the most energy efficient The New American Home ever built for an International Builders Show.
- Our growing product and systems portfolio, coupled with our world class building science capabilities, have positioned Owens Corning as a trusted resource for Architecture, Engineering and Construction professionals who specialize in building enclosure design and construction. Our collaboration focus is on maximizing energy efficiency and comfort while overcoming design, code, durability and liability challenges.

## Safety, Health, Employee Engagement and Community Vitality

- Reduced employee recordable incidents by 7 percent year-over-year and operate at a very high level of safety performance. We have fully integrated global wellness and sustainability into our safety and health strategies across the globe.
- Expanded our global efforts assisting families in need by providing clean drinking water systems in India and completing our first Habitat for Humanity builds in China.
- Provided substantial volunteers, products and financial support to assist more than 1,600 families obtains safe, affordable, energy-efficient housing to needy families through Habitat for Humanity and Make it Right organizations.
- Earned placement, for the sixth consecutive year, in the Dow Jones Sustainability World Index (DJSI World) in recognition of our sustainability initiatives, and for the third straight year, were named the Industry Leader for the DJSI World Building Products group.
- Aligned our Human Rights Policy with our commitment to the United Nations Global Compact. Our policy meets the requirements of both the California Transparency in Supply Chain Act of 2010 and the U.K. Modern Slavery Act of 2015. It is informed by the Universal Declaration of Human Rights, the United Nations Ten Guiding Principles and the recently released Sustainable Development Goals.

## Organization Profile

Owens Corning was founded in 1938. Since then, the Company has continued to grow as a market-leading innovator of glass fiber technology. Owens Corning is a world leader in composite and building materials systems, delivering a broad range of high-quality products and services. 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. Through its glass reinforcements business, the company makes thousands of products lighter, stronger and more durable. Ultimately, Owens Corning people and products make the world a better place. Based in Toledo, Ohio, Owens Corning posted 2015 sales of \$5.35 billion (\$3.7 billion in the United States, \$5.15 million in Europe, \$6.62 million in Asia Pacific, Canada and other \$4.76), total assets of \$7.38 billion and employs about 15,000 people in 25 countries (72% in the Americas Region, 12% in the European Union, and 17% in Asia Pacific) with over 100 operations. It has been a Fortune 500® company for 61 consecutive years.

Beneficial ownership (including identity and percentage of ownership of largest shareholders): Barrow, Hanley, Mewhinney and Strauss, LLC 8.2%; The Vanguard Group 7.5%; Blackrock, Inc. 5.3%

Owens Corning is a global insulation, roofing and fiberglass manufacturer, headquartered in One Owens Corning Parkway, Toledo, Ohio, 43659, USA. As of December 31, 2015, Owens Corning employed about 15,000 people in 25 countries. We have manufacturing and research and development operations in the following countries:

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

## Our Businesses

The Company has three reporting segments: Composites, Insulation and Roofing. Our Composites, Insulation, and Roofing reportable segments accounted for approximately 35% , 33% and 32% of our total reportable segment net sales, respectively, in 2015, without any significant change in the organization's size, structure, ownership, or supply chain.

### Composites

Owens Corning glass fiber materials can be found in over 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. We primarily sell our products directly 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.



Our Composites segment is comprised of our Reinforcements and downstream businesses. Within the Reinforcements business, the Company manufactures, fabricates, and sells glass reinforcements in the form of fiber. Within the downstream business, the Company manufactures and sells glass fiber products in the form of fabrics, mat, veil, and other specialized products. 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 solution 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 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.

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.

## 2015 Revenue by End Market

- U.S. and Canada New Residential Construction (17%)
- U.S. and Canada Residential Repair and Remodeling (35%)
- U.S. and Canada Commercial and Industrial (22%)
- International (26%)



## Our Total Workforce (G4-10)

Category	Position	Year			
		2015		2014	
		Female	Male	Female	Male
Number of employees in the <b>minority group</b> by gender within employee categories	Managers	19	67	16	63
	Officers		7		5
	All other staff	96	189	90	189
	Primary	267	1,588	247	1,463
Number of employees in the <b>age group &lt;30 years</b> by gender within employee categories	Managers	12	30	1	4
	Officers				
	All other staff	177	249	166	263
	Primary	207	1,606	168	1,552
Number of employees in the <b>age group 30-50 years</b> by gender within employee categories	Managers	200	613	127	386
	Officers	9	25	6	29
	All other staff	570	1,082	632	1,322
	Primary	776	4,659	716	4,565
Number of employees in the <b>age group &gt;50 years</b> by gender within employee categories	Managers	53	284	39	277
	Officers	1	18	1	20
	All other staff	295	628	320	629
	Primary	291	2,458	283	2,454

Country	2015		2014	
	Female	Male	Female	Male
Canada	53	494	48	488
United States	1,486	5,914	1393	5721
Argentina	0	1	0	1
Brazil	31	568	30	538
Mexico	300	1,200	269	1170
Belgium	28	82	29	83
Czech Republic	0	1	0	1
France	98	590	87	562
Germany	1	8	0	8
Italy	19	279	20	255
Poland	0	2	0	1
Russia	96	206	98	205
Slovakia	0	2	0	2
Spain	25	36	27	40
The Netherlands	16	145	15	140
United Kingdom	9	76	7	73
China	391	994	385	983
Hong Kong	0	1	0	2
India	10	693	9	723
Japan	6	20	14	148
Korea	18	312	20	314
Singapore	6	38	6	39
Thailand	2	2	2	2
Taiwan	0	1	0	1

### Percentage of Employees Covered by Collective Bargaining Agreements (G4-11)

Percentage of employees covered by collective bargaining agreements	2015	2014	2013	2012	2011
Worldwide %	65%	63%	65%	68%	50%

### Our Precautionary Approach (G4-14, 15)

Owens Corning has been a signatory to the United Nations 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 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 manage them. Owens Corning is confident that these efforts are consistent with and meet the expectation of the precautionary approach. Our product stewardship policy can be viewed on the Owens Corning Sustainability website.

In addition, Owens Corning publically 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 and 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, Supplier Code of Conduct, Company Code of Conduct, Anti-Corruption Policy, and Environmental, Health, Safety and Product Stewardship Policy all ensure we act 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

We at Owens Corning have a diverse workforce, representing different countries, spread across the globe. The following is a glimpse of our global spread.

## Our Partnerships with Other Organizations/Governing Bodies

Our partnerships with different organizations and the positions held by Owens coming in those organizations is mentioned in the below file.

	Position in governance bodies	Participate 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
Make It Right (MIR)			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-Governmental Organizations:</b>				
Element Financial Corp, fleet management				X
Building Performance Institute (BPI)	X	X		X
United Nations Global Compact				X
NRDC		X		X
Business for Innovative Climate and Energy Policy a project of CERES (BICEP)		X		X
Science Based Targets Initiative				X
EDF Fellows		X	X	X
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
Alliance to Save Energy				x
<b>Industry Associations:</b>				
National Association of Home Builders	x	x	x	x
Home Innovations Research Labs			x	x
U.S. Green Building Council		x		x
Green Building Initiative GBI				x
Building Performance Institute (BPI)	x	x		x
International Living Future Institute		x	x	x
UL Environment		x		x
Business Roundtable	x	x	x	x
Latin America Insulation Manufacturer Association				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
RESNET	x	x	x	x
EEBA - Energy and Environmental Building Alliance	x	x	x	x
SouthFace		x	x	x
ICAA- Insulation Contractors of America Association		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, AC, Refrigeration Distributors International				x
Refrigeration Engineers & Technicians Association				x
ecoEII- ecoENERGY Innovation Initiative		x	x	x
Ohio Manufacturers Association				x
National Association of Manufacturers				x
<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

## Corporate Governance

At Owens Corning, 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 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 commitment to our values.

*Our Corporate Governance guidelines, policies, and Code of Business Conduct can be accessed from our website <http://investor.owenscorning.com/Corporate-Governance/default.aspx>*

## 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 our businesses and associates under a single roof and integrates our values within daily operations. It overlooks the performance and drives excellence across all 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. All 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 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. The Board will consider all relevant facts and circumstances in making an independence determination, and not merely from their own stand point.

Each of the Board committees is comprised entirely of Independent Directors. 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.



## Nomination and Selection Process of Board Members (G4-40)

The Governance and Nominating Committee is responsible for identifying and recommending to the Board individuals qualified to serve as directors and as committee members, advising the Board with respect to Board composition, procedures and committees; advising the Board with respect to the corporate governance principles applicable to the Company; and overseeing the annual evaluation of the Board.

### **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 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, nominees for director are selected 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, and it does not have an additional policy with respect to the consideration of diversity. 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.

### **Consideration of Director Candidates Recommended by Stockholders**

Under its charter, the Governance and Nominating Committee is responsible for reviewing stockholder nominations for director. The Committee does not have a formal policy with respect to the consideration of director candidates recommended by stockholders. However, its practice is to consider those candidates on the same basis and in the same manner as it considers recommendations from other sources. Such recommendations should be submitted to the non-management directors and should include information about the background and qualifications of the candidate.

## Evaluation Process

Every year, the Governance and Nominating committee facilitates a process to evaluate the effectiveness of the Board, its committees, and the Chairman and CEO.

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 utilizes 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.

The Governance and Nominating Committee also prepares and circulates evaluations to the Independent Directors regarding the performance of the Chairman and CEO in several key performance areas. Non-management directors discuss their feedback on the Chairman and CEO with the Lead Independent Director. The results of the process are discussed in an executive session of the non-management directors and are also factored into the Compensation Committee's performance evaluation of the Chairman and CEO.

Pursuant to the Corporate Governance Guidelines, the Board has the authority to select its Chairperson based on its collective best judgment as to the candidate best suited to meet the Company's needs at a given time. Accordingly at Owens Corning, Michael H. Thaman, who is also the CEO of the Company, serves as Chairman of the Board and a non-management director serves as lead Independent Director. The Board of Directors believes that this leadership structure is appropriate for Owens Corning in light of the Company's governance structure, current needs, and business environment as well as the unique talents, experiences, and attributes of the individuals in those roles.

## Board Orientation and Continuing Education

Owens Corning shall provide new Directors with a Director Orientation program to familiarize such Directors with, among other things, the Company's business, strategic plans, significant financial, accounting and risk management issues, compliance programs, conflicts policies, Code of Business Conduct and ethics, corporate governance guidelines, principal officers, internal auditors, and independent auditors. The orientation process for new Directors is designed to make the Directors knowledgeable about the company and includes briefings by the Chief Executive Officer and Management. Each Director is expected to participate in continuing educational programs in order to maintain the necessary level of expertise to perform his or her responsibilities as a Director.

## The Board

In 2015, Owens Corning's Board comprised of one Executive Director and 11 Independent Non-Executive Directors. Among the members two are from ethnic minority groups.

Name of Board	Gender	Initial Year as Director	Role
---------------	--------	--------------------------	------

Member				
1	Mr. Thaman	Male	2006	Executive
2	Mr. Conde	Male	2014	Independent Non-Executive Director
3	Mr. Ferguson	Male	2011	Independent Non-Executive Director
4	Mr. Hake	Male	2006	Independent Non-Executive Director
5	Mr. Handy	Male	2006	Independent Non-Executive Director
6	Ms. Iverson	Female	2006	Independent Non-Executive Director
7	Mr. Lonergan	Male	2013	Independent Non-Executive Director
8	Ms. Mannen	Female	2014	Independent Non-Executive Director
9	Mr. McMonagle	Male	2007	Independent Non-Executive Director
10	Mr. Morris	Male	2007	Independent Non-Executive Director
11	Ms. Nimocks	Female	2012	Independent Non-Executive Director
12	Mr. Williams	Male	2011	Independent Non-Executive Director

All board members have competency related to economic, environmental, and social impacts. The detailed competency of board members can be accessed under the section *Election of Directors* in our *Proxy Statement*.

During 2015, the Board of Directors met six times. Each of our directors attended at least 75 percent of the meetings of the Board and Board committees on which he or she served in 2015.

## Board Committees (G4-34, 42, 46)

Owens Corning's Board has following committees:

### 1. Audit Committee

The Audit Committee is responsible for preparing the Audit Committee report required by Securities and Exchange Commission (SEC) rules and assisting the Board in fulfilling its legal and fiduciary obligations with respect to oversight matters involving the accounting, auditing, financial reporting, internal control and legal compliance functions of the

Company, including assisting the Board's oversight of:

- the integrity of the Corporation's financial statements;
- the Corporation's compliance with legal and regulatory requirements;
- the Corporation's independent public accountants' qualifications and independence; and
- the performance of the independent public accountants and the Corporation's internal audit function.

The Board of Directors has determined that each member of the Audit Committee is an "audit committee financial expert" for purposes of the SEC's rules.

This includes the preparation of the audit committee report required to be prepared by the Committee pursuant to the rules of the SEC for inclusion in the Corporation's annual report on Form 10-K filed with the SEC.

The Audit Committee has a charter which requires review of the impact of significant regulatory changes, proposed regulatory changes, and accounting or reporting developments, including significant reporting developments related to the principles of sustainability.

## **2. The Compensation Committee**

The Compensation Committee is responsible for oversight of the Company's executive compensation, including authority to determine the compensation of the executive officers, and for producing an annual report on executive compensation in accordance with applicable rules and regulations. The Compensation Committee may delegate power and authority to subcommittees of the Compensation Committee as it deems appropriate. However, the Compensation Committee may not delegate to a subcommittee any power or authority required by any law, regulation, or listing standard required to be exercised by the Compensation Committee as a whole.

In overseeing the Company's policies concerning executive compensation for officers, the Compensation Committee:

- Reviews at least annually the goals and objectives of the Company's plans and amends or recommends that the Board amend these goals and objectives if the Compensation Committee deems it appropriate;
- Reviews at least annually the Company's executive officer compensation plans in light of the Company's goals and objectives, and, if the Compensation Committee deems it appropriate, adopts or recommends to the Board the adoption of new, or the amendment of existing, executive compensation plans;
- Evaluates annually the performance of the Chief Executive Officer in light of the goals and objectives of the Company's executive compensation plans and, either alone as a committee or together with the other Independent Directors, sets the Chief Executive Officer's compensation level based on this evaluation;
- Approves the pay structure, salaries and incentive payments of all other executive officers of the Company, as well as the performance requirements for the Company's annual and long-term incentive plans; and
- Reviews and approves any severance or termination arrangements to be made with any executive officer of the Company.

The Compensation Committee also reviews the Company's executive compensation programs on a continuing basis to determine that they are properly integrated and that payments and benefits are reasonably related to executive and Company performance and operate in a manner consistent with that contemplated when the programs were established.

## **3. The Governance and Nominating Committee**

The purpose of the Governance and Nominating Committee shall be to identify and recommend to the Board individuals qualified to serve as directors of the Corporation and on committees of the Board; to advise the Board with respect to Board composition, procedures, and committees; to advise the Board

with respect to the corporate governance principles applicable to the Corporation; and to oversee the evaluation of the Board and the Corporation's management.

#### **4. The Executive Committee**

The Executive Committee shall have, and may exercise when the Board is not in session, all of the powers of the Board of Directors in the management of the business and affairs of the Corporation, except that the Executive Committee shall not have the power to amend the Certificate of Incorporation; adopt an agreement of merger or consolidation; amend the by-laws; or recommend to the stockholders the sale, lease, or exchange of all or substantially all of the Corporation's assets or the dissolution of the Corporation.

#### **5. The Finance Committee**

The Finance Committee is responsible for exercising oversight responsibility with respect to the Company's material and strategic financial matters, including those related to investment policies and strategies, merger and acquisition transactions, financings, capital structure, to advise, and as appropriate authorize, Management with respect to such matters, and to advise, and as appropriate to make recommendations to, the Board with respect to such matters.

#### **6. Risk Management Committee**

The Company has a Risk Committee that considers significant risk to the corporation which reports an annual update to the Owens Corning Board of Directors. The Risk Committee:

- Reviews the Owens Corning Risk Register substantiated by business and functional reviews. The risks are prioritized based on their placement on the register. The Y-axis is a measure of financial impact and the X-axis is a measure of probability of occurrence. A risk, for example, located toward the upper left of the risk map would be indicative of risk that is high in financial impact but low in probability. Additional prioritization is provided by color coding. Risks plotted in green indicate that level of exposure is acceptable, yellow indicate mitigation plans are actively in place, and red indicate that improved risk mitigation is needed.
- Aligns around key mitigation programs – Based on the risk assessment register outputs, the Risk Committee identifies the various mitigation actions to be taken and a planned approach is taken toward implementing the same through the businesses.
- Reviews Risk Register with Executive Committee – All risk assessment results and outputs are reviewed by the Executive Committee and feedback received is incorporated in the action register and also reflected in the mitigation planning.
- Meets yearly as a Risk Committee to review the existing risk aspects, add any new risks being identified from internal or external sources, and update any risks which are no longer considered applicable to the businesses. The Risk Committee also reviews the mitigation actions and outputs for the annual cycle.

Business risks are discussed in detail in our 10K. Details of our risk factors begin on page 4 of the 10K. Details of our market risk begin on page 34. Additional details on risks related to climate change, including how they are currently managed, can be found in our CDP response, questions 2.1 and 5.1. Given the nature of our products, Owens Corning has significant opportunities related to sustainability. Details of these opportunities, including our approach to capitalizing on them, can be found in our CDP response, questions 2.1 and 6.1.

## Remuneration of Governance Body (G4-51, 52, 53, 54, 55)

Senior Management, Executive, and Board member compensation are all linked to financial, environmental, and corporate governance performance. Owens Corning continually monitors the evolution of compensation best practices. Within this program the corporation reviews the relationship between company performance and compensation and the goals and targets we are setting. Individual goals and targets are designed to ensure Owens Corning as a whole meets its financial and environmental goals while operating as an ethical company. Overall 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 the Owens Corning Proxy Statement starting on page 23.

### Our Executive Compensation Philosophy

The committee believes that executive compensation opportunities must align with and enhance long-term stockholder value. This core philosophy is embedded in all aspects of our executive compensation program and is reflected in an important set of guiding principles. We believe that the application of these principles enables us to create a meaningful link between compensation outcomes and long-term, sustainable growth for our stockholders.

Pay for performance	Stockholder alignment	Long-term focus
A substantial majority of pay is variable, contingent, and directly linked to Company and individual performance.	The financial interests of executives are aligned with the long-term interests of our stockholders through stock-based compensation and performance metrics that correlate with long-term stockholder value.	For our most senior executives, long-term stock-based compensation opportunities will significantly outweigh short-term cash-based opportunities. Annual objectives should complement sustainable long-term performance.

Competitiveness	Balance	Governance/Communication
Total compensation will be sufficiently competitive to attract, retain, motivate, and reward a leadership team capable of maximizing Owens Corning's performance. Each element should be initially benchmarked relative to peers and the broader marketplace for executive talent.	Our compensation program is designed to be challenging but fair. Executives should have the opportunity to earn market competitive pay for delivering expected results. As results exceed expectations (both internal and external), pay levels may increase above market median levels. If performance falls below expected levels, actual pay will fall below market median.	Feedback from stockholders is periodically solicited and factored into the design of our compensation program.  Ease of communication for all constituents is a key goal for all elements of our compensation program.

### Role of the Compensation Committee

The Compensation Committee, which consists of five Independent Directors, is responsible for overseeing the development and administration of our executive compensation program.

In this role, the Committee approves all compensation actions concerning our CEO and the other "named executive officers" or NEOs. The Committee's other responsibilities include:

- Designing executive compensation plans and programs;
- Assessing input from Owens Corning’s stockholders regarding executive compensation decisions and policies;
- Reviewing and approving incentive plan metrics and targets;
- Assessing each NEO’s performance relative to these metrics and targets;
- Evaluating the competitiveness of total compensation for the CEO and the other NEOs; and
- Approving changes to a NEO’s compensation, including base salary and annual and long-term incentive opportunities and awards.

The Senior Vice President, Organization and Administration, along with Owens Corning’s Human Resources staff and an independent compensation consultant, assist the Committee with these tasks. The Committee’s charter, which sets out the Committee’s responsibilities, can be found on our website at: <http://investor.owenscorning.com/Corporate-Governance/Board-of-Directors/>.

### **Role of Compensation Consultant**

In the first half of 2015, the Committee retained Pearl Meyer and Partners (“Pearl Meyer”) to serve as its executive compensation consultant. The Committee subsequently hired Meridian Compensation Partners (“Meridian”) to serve in this role for the remainder of 2015 and going forward. We refer to either Pearl Meyer (for the first half of 2015) or Meridian (for the second half of 2015) as the “Consultant”.

During 2015, the Consultant advised the Committee on a variety of subjects consisting of compensation plan design and trends, pay for performance analytics, and benchmarking norms. While the Consultant may make recommendations on the form and amount of compensation, the Committee continues to make all decisions regarding the compensation of our NEOs.

The Consultant reports directly to the Committee, participates in meetings as requested and communicates with the Committee Chair between meetings as necessary. In 2015, the Consultant attended all of our Committee meetings.

### **Executive Compensation Practices**

We continually monitor the evolution of compensation best practices. Some of the most important practices incorporated into our program include the following:

- **Review of Pay versus Performance:** The Committee continually reviews the relationship between compensation and Company performance.
- **Median Compensation Targets:** All compensation elements for our executives are initially targeted at the median of our competitive marketplace for talent.
- **Performance Metrics:** The Committee annually reviews performance goals for our annual and long-term incentive plans to assure the use of challenging, but fair, metrics and targets. Additionally, the Committee reviews the cost of our plans at various performance levels to ensure that stockholders are appropriately benefiting from performance outcomes.
- **Claw back of Compensation:** If the Board of Directors determines that an NEO has engaged in fraud, willful misconduct, or a violation of Company policy that caused or otherwise contributed to the need for a material restatement of the Company’s financial results, the Committee will review all performance-based compensation, including cash incentive awards and all forms of equity-based compensation, awarded to or earned by that NEO during the respective fiscal periods affected by the restatement. If the Committee determines that performance-based compensation would have been

materially lower if it had been based on the restated results, the Committee will seek recoupment from the NEO as it deems appropriate based on a consideration of the facts and circumstances, and applicable laws and policies.

- **Meaningful Share Ownership Guidelines:** Our share ownership requirements are rigorous: six times base salary for the CEO, and three times base salary for other NEOs.
- **No Hedging:** Owens Corning does not allow directors and NEOs to enter into short sales of common stock or similar transactions where potential gains are linked to a decline in the price of our shares. Recipients of equity awards also may not enter into any agreement that has the effect of transferring or exchanging any economic interest in an award for any other consideration.
- **No Pledging:** Effective January 1, 2016, directors and NEOs, as well as all officers of the Company, are prohibited from pledging Company securities as collateral for a loan or holding Company securities in a margin account.
- **No Repricing:** Stock option exercise prices are set to equal the grant date market price and may not be reduced or replaced with stock options with a lower exercise price.
- **Market-Competitive Retirement Programs:** We eliminated defined benefit pension benefits for salaried employees hired after January 1, 2010 and froze existing salaried pension benefits to future accruals at the same time. Our NEOs participate in the Company's 401(k) plan are eligible for a Company match on amounts in excess of statutory limits.
- **No Perquisites:** Our NEOs participate in the same benefit plans as our salaried employees, with no special executive perquisites.
- **Restrictive Covenants:** Our NEOs must adhere to restrictive covenants upon separation from Owens Corning, including non-compete, non-solicitation, and non-disclosure obligations.
- **No Excise Tax Gross-Ups:** Parachute excise tax reimbursements and gross-ups will not be provided in the event of a change-in-control.
- **Review of Compensation Peer Group:** Our compensation peer group is reviewed regularly by the Committee and adjusted, when necessary, to ensure that its composition remains a relevant and appropriate comparison for our executive compensation program.
- **Review of Committee Charter:** The Committee reviews its charter annually to consider the incorporation of best-in-class governance practices.
- **Stockholder Outreach:** We regularly solicit feedback from our stockholders on our executive compensation program.

## Compensation Structure

The following principal elements make up part of our named executive officers' compensation program:

Cash Compensation		Long Term Insurance		Retirement
Base Salary	Annual Incentive	Performance Units	Share Restricted Shares	401(k) Saving Plan
				Non-Qualified Deferred Compensation Plan

*For detailed information on Executive Compensation and information on Compensation paid to executives, please access Executive Compensation section in Owens Corning Proxy Statement<sup>1</sup>.*

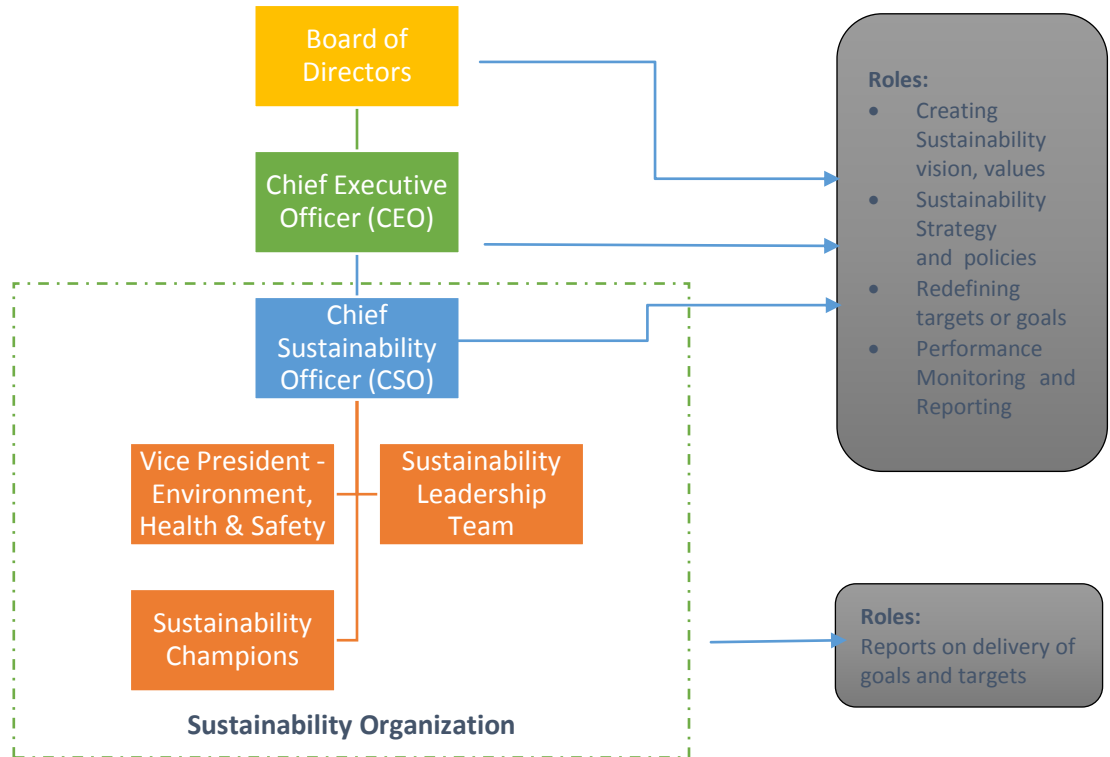
<sup>1</sup> Owens Corning Proxy Statement - <http://d1lge852tjigow.cloudfront.net/CIK-0001370946/a3528999-147a-49a6-90fc-746d776ac6c.pdf?noexit=true>



## Sustainability Governance Structure (G4-35, 36, 42, 48)

We have sustainability governance structure to discuss and make decisions on all issues related to economic, environmental and social aspects. The complete Board of Directors monitors Owens Corning's progress against sustainability and assigns tasks to senior management.

The Chief Sustainability Officer is accountable for the corporation's compliance with environmental, safety, health, and sustainability matters heads the sustainability organization and directly reports to CEO.



## Conflict of Interest (G4-41)

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 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; and may proceed with the transaction only after receiving approval from the Governance and Nominating Committee.

## Stakeholder Communication (G4-37, 49, 50)

At Owens Corning, a communication mechanism is established wherein 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). The communications are

promptly reviewed by the Vice President, Internal Audit and/or the Senior Vice President and General Counsel for evaluation and appropriate action. 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. Any 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. Any complaints regarding ethical business practices may be submitted to the General Counsel of the Company or the Business Conduct Helpline. During the reporting period, there were no critical concerns communicated to highest governance body.

*Please visit Proxy Statement available on our website to know more about the Governance structure at Owens Corning.*

## Risk Oversight (G4-45, 47)

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.

The Compensation, Finance, and Governance and Nominating Committees of the Board of Directors each 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 which 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 and Integrity

Conducting business ethically is both an opportunity and a responsibility of every employee. Owens Corning has a reputation for doing the right thing both in the products we make and in 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 Business 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 Business Conduct Policy 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:

- Owens Corning's Code of Conduct
- Ethics Policy for Chief Executive and Senior Financial Officers
- Directors' Code of Conduct
- Equal Opportunity
- Non-Harassment

## Core Values and Code of Conduct (G4-56)

Compliance at Owens Corning means that we all follow our Ten Guiding Principles 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 Conduct Policies detailing compliance expectations. Owens Corning's Code of Conduct and Ten Guiding Principles are inspired by and aligned to the UN Global Compact, the Universal Declaration of Human Rights, the U.S. Foreign Corrupt Practices Act (FCPA), the UK Bribery Act, and the OECD Convention on Combating Bribery.

This Code of Business 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 myOC home page in nine languages (Company Policies > Business Conduct Website). The Business Conduct Council, with two company executives as members, has oversight responsibility for worldwide compliance with these policies.

Our Code of Business Conduct is an extension of our corporate values, and 100% compliance is an expectation of employment at Owens Corning.

The Code of Conduct covers the following subject matters at group level:

- Corruption and bribery
- Discrimination
- Confidentiality of information
- Antitrust/anticompetitive practices

- Money-laundering and/or insider trading/dealing
- Environment, health and safety
- Whistleblowing

We have 100% of coverage of our Code of Conduct and anti-corruption and bribery policy for:

- Employees group-/worldwide
- Contractors/Suppliers/Service providers
- Subsidiaries
- Joint ventures

## Ethics Policy for Chief Executive and Senior Officers

The Company is committed to conducting its business in accordance with applicable laws, rules and regulations and standards of business conduct, and to full and accurate financial disclosure in compliance with applicable law. This Policy, applicable to the Company's Chief Executive Officer, Chief Financial Officer, and Corporate Controller (together, "Senior Officers"), sets forth specific policies to guide you in the performance of your duties.

Senior Officers must not only comply with applicable law, they must engage in and promote honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships. They are expected to adhere to this Policy, the Owens Corning Code of Conduct and the Conflict of Interest Policy at all times.

### **Compliance with Laws, Rules and Regulations**

Senior Officers are required to comply with the laws, rules and regulations that govern the conduct of our business and to report any suspected violations to Legal or Corporate Audit Services or to any member of the Business Conduct Council. The Company also maintains a confidential reporting system, the Business Conduct Helpline, at 1-800-241-5689 or, for calls outside the United States, 770-263-4741.

### **Conflicts Of Interest**

No Senior Officer shall make any investment, accept any position or benefits, participate in any transaction or business arrangement, or otherwise act in a manner that creates or appears to create a conflict of interest with the Company unless the Senior Officer makes full disclosure of the facts and circumstances to, and obtains the prior written approval of, the Governance and Nominating Committee of the Board of Directors.

### **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.

## Director's Code of Conduct

The Directors of Owens Corning adopt the Director's Code 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 seek 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.

For more information, please see the Director's Code of Conduct on Owens Corning's website. [Director's Code of Conduct](#)

## Equal 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.

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 as set forth below.

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 sixteen, and defines “forced labor” as any work or service not voluntarily performed and extracted from an individual under threat of force.

For more information, please see the [Equal Opportunity Policy](#) on Owens Corning’s website.

## 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.

For more information, please see the [Non-Harassment Policy](#) on Owens Corning’s website.

## Seeking Advice on Ethical and Lawful Behavior (G4-57)

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 we learn 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.

An employee who needs to report their concerns and seeks guidance can follow one of the below measures:

1. Talk to a manager, leader, or another manager you trust
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:  
OC Ethical Business Complaints  
Office of the General Counsel 2-29  
One Owens Corning Parkway

Toledo, OH 43659

5. Writing an email to: [ethical.business.complaints@owenscorning.com](mailto:ethical.business.complaints@owenscorning.com)
6. Calling the confidential Business Conduct Helpline

## Complaints Regarding Ethical Business Practices

At Owens Corning, persons who want to report concerns about unethical or unlawful behavior and matters related to organizational integrity (including, but not limited to, accounting, internal accounting controls, or auditing irregularities) can report such complaints via email using the form at <http://investor.owenscorning.com/English/Corporate-Governance/Corporate-Ethics/Report-Ethical-Business-Practice-Complaints/default.asp>.

Owens Corning has had no legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes (SO7).

Another way to report concerns is to send the complaint in writing to the following address: OC Ethical Business Complaints, Office of the General Counsel 2-29, One Owens Corning Parkway, Toledo, OH 43659; or call the Business Conduct Helpline at 1-800-241-5689.

## Political Contributions (SO6)

Owens Corning has developed a vehicle for employees to provide political contributions, The 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 2015, Owens Corning did not make any contributions towards any political institutions.

## Building a Net Positive Company: Driving Sustainability across the Value Chain

Owens Corning is a leading producer of residential and commercial building materials including insulation and roofing, and fiberglass composites for products such as automotive parts, commercial wind turbines, and consumer electronics. Founded in 1938, the company's global operations span North and South America, Europe and the Asia-Pacific.

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 efficiency 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. At the same time, we are 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. Backed by the science of climate change, we are taking aggressive actions in our operations to reduce our environmental impact, well in advance of public policy.

In keeping with our philosophy, we are committed to objectively identifying material issues and evaluating the level of impact across our value chain. As part of our sustainability process, we conducted an extensive materiality assessment that covers the entire spectrum of operational, environmental, economic, and social impact created by our organization. This report provides a snapshot of our materiality assessment journey and highlights the results of our new materiality matrix for 2015-16.

*Nurturing the lives of those impacted by our business – this is the fundamental value that helps us find opportunity in every issue, and in turn improve our business operations. Our mission is to make the world a better place by becoming a net positive company through social responsibility, innovation, collaboration, and sustainability across operations, products, and supply chain*



### Materiality Assessment 2015-16: Benchmarking against the Global Reporting Initiative (GRI)

We conducted a comprehensive materiality assessment exercise benchmarked against the most recent, fourth generation of Global Reporting Initiative (GRI) guidelines – GRI-G4 that emphasize stakeholders as the primary driver for materiality. Through this initiative, we aim to report the positive and negative impact of all our business operations on the economy, environment, and society.

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. In order to stay in lockstep with the changing business context, stakeholder requirements, and emerging trends, we regularly review and update our material aspects.

GRI's G4 guidelines define material issues (or material aspects) as *“those that reflect the organization's significant economic, environmental and social impacts; or that substantively influence the assessments and decisions of stakeholders.”*

### Moving in Tandem with the Evolving Business Landscape: Materiality Refresh

In late 2013, Owens Corning partnered with a consulting group to create a materiality matrix based on the input gathered from over 80 internal and external stakeholders through interviews and an electronic survey. While our external stakeholders included builders, contractors, customers, investors, non-government organizations (NGOs) and suppliers, our internal stakeholders comprised a broad expanse of our employees. The study was based on best practices published by the Sustainability Accounting Standards Board (SASB), CDP (formally known as the Carbon Disclosure Project), Global Reporting Initiative (GRI), and the World Business Council for Sustainable Development (WBCSD) Vision 2050. The materiality assessment exercise helped us define 22 medium-to-high criticality materiality topics, which were categorized into four areas – *increasing handprint, decreasing footprint, product responsibility, and social responsibility*. Finally, our key leadership team worked together to review and prioritize the efforts of the company, and strengthen our sustainability strategy based on the identified material aspects.

To ensure the continued relevancy of our materiality assessment reporting process, we partnered with Tata Consultancy Services (TCS). TCS helped reassess our material issues by collecting internal and external perspectives on our most critical issues through an intensive four-step process spanning a year (April 2015 and March 2016).

## Choosing our Sustainability Priorities: Approach to Materiality Assessment: G4-24, G4-25, G4-26

We adopted a structured approach to materiality assessment by identifying a broad umbrella of relevant issues, and prioritizing them based on the changing business needs, stakeholder feedback, and emerging trends. Some of the distinctive features of our materiality assessment process are highlighted here.

### Engaging with Stakeholders

We believe that stakeholder engagement processes empower us to refine our strategies and identify additional opportunities for collaboration. The stakeholder engagement exercises conducted as part of materiality assessment reflect our cherished values of transparency and accountability in business operations. It provided us with an opportunity to gather feedback from our stakeholders on material issues that matter the most to them, and collaborate with them to address the issues and maximize performance.

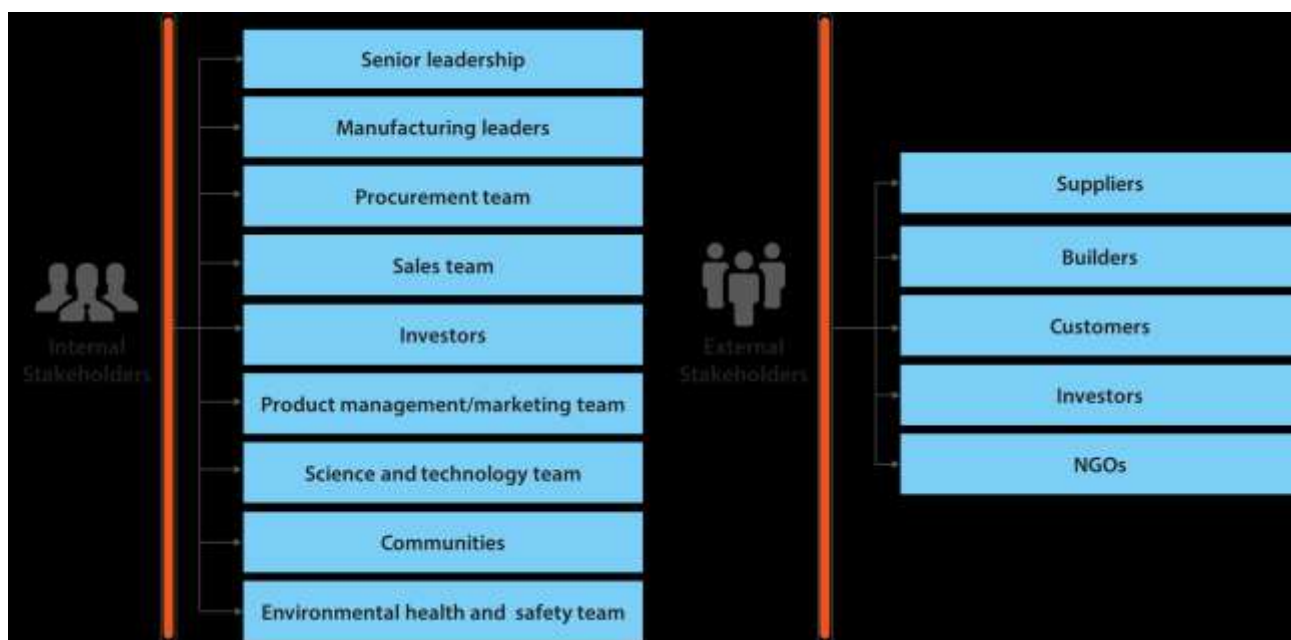


Figure 1: Stakeholders engaged during the materiality assessment process

As part of our first materiality study initiated in 2013, we began identifying relevant stakeholders. A value chain map helped us determine the stakeholders who are the most relevant to us. Based on the results of the map, we interviewed both **internal** and **external stakeholders** (Figure 1). We further expanded on those initial interviews by asking additional questions and incorporating additional stakeholders. The results of these interviews have been used in our transition to G4 for our 2016 report. A chart listing all the Stakeholders interviewed is included in Appendix 2.

## Owens Corning Materiality Assessment 2016

---

### Key Stakeholder Voices:



*We have appreciated over the years, your ability to work with supply strategy sourcing dynamic technology so that we can continue to drive down the globalized cost of wind energy*



**– Composites Customer**



*“We recognize that it is not merely sufficient to reduce our footprint on the planet, but must also expand our handprint through our strategies and actions.”*



**– Vice President, Sustainability**



*“Safety goals are embedded in the organization. Public targets are communicated”*



**– Director of Environmental, Health and Safety**



*“It is important for us to understand the oversight of issues and risks at the board level (how are these risks managed, and who is accountable).”*



**– Investor**



*“Waste to landfill will be the biggest challenge. By 2020, Owens Corning wants to reduce waste to landfill intensity by 70%. Being able to achieve that is dependent on waste glass from the production process. We’re trying to find alternate uses for waste glass.”*

**– Environmental, Health and Safety Leader**



## Arriving at the Materiality Matrix: G4-19, G4-27

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. The following four steps (illustrated in Figure 2) helped us arrive at the materiality matrix for 2016.



Figure 2: Four-step materiality assessment process: A snapshot

### Step 1: Revisiting Materiality Grid 2014

We kick started our materiality assessment by analyzing the materiality matrix for the previous year and identifying the gaps in the same. We identified two major gaps through the analysis:

- A few aspects classified as high priority were in fact not relevant to the company's operations anymore
- A comprehensive impact assessment was not conducted to assess how we can improve the performance of each aspect

### Step 2: Redefining Materiality and Aspect Identification

In this step, we revisited and retraced the materiality matrix. Along with existing data gathered from the interviews conducted in the previous year, we identified and engaged with a new set of stakeholders to arrive at a revised list of material aspects.

We based the aspect identification process on a three-pillar analysis as depicted in Figure 3.

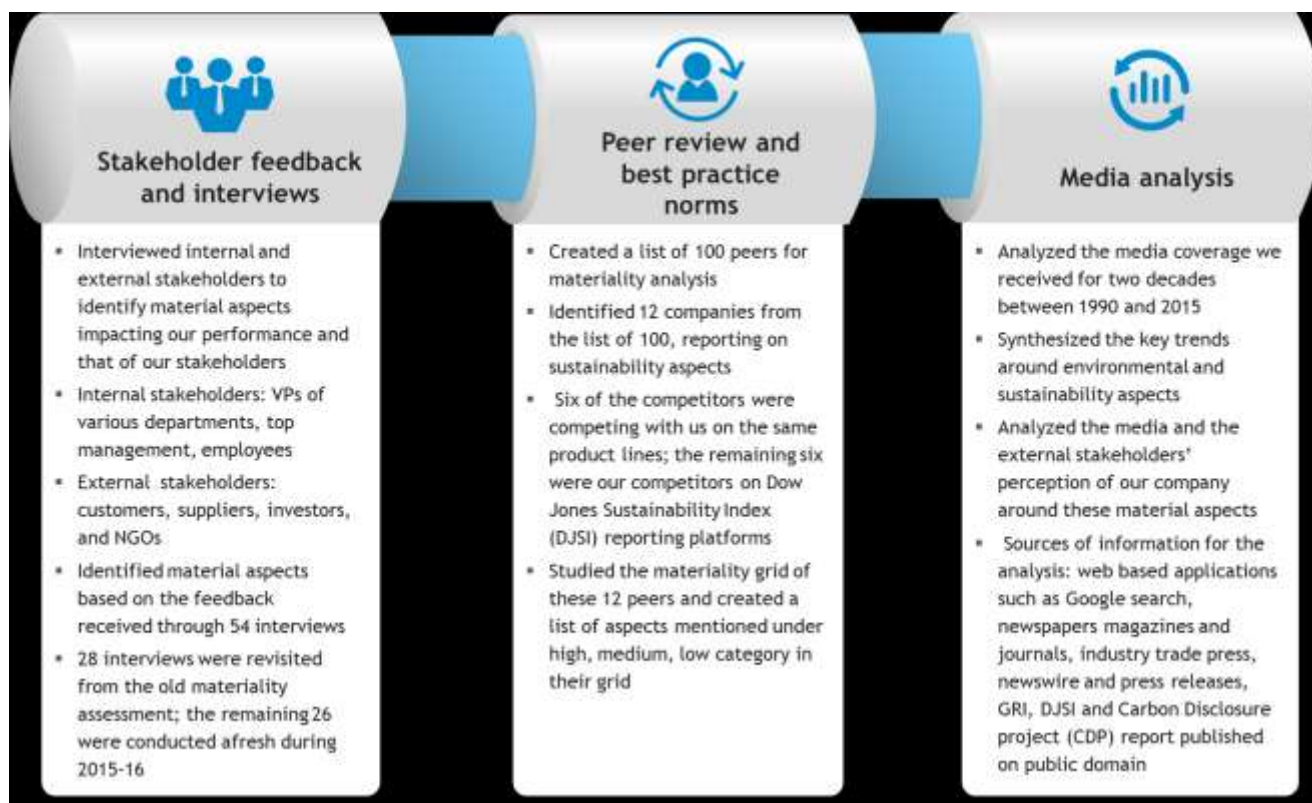


Figure 3. Three-pillar analysis for aspect identification

### Step 3: Narrowing Down the Top 16 Aspects

Some of the major processes in this step included aspect prioritization, threshold definition, identification of 16 top material aspects, and review and classification of the top 16 aspects into four key themes.

#### Aspect Prioritization

We employed the following methodologies to choose the scoring criteria for each pillar and prioritize the different aspects gathered from interviews, and peer and media analyses.

**Repetition-based score for stakeholder feedback and interviews:** We scored each aspect based on the number of times it was repeated across all interviews.

**Weightage average for peer review and best practice norms:** Each aspect was scored based on a weighted average of the peer's weightage factor (based on type of competitor) and aspect importance score (very high, high, medium, and low) in the peer's materiality grid. A higher weightage factor was assigned to peers who had the same product line as our company than those competing in the Dow Jones Sustainability Index.

**Perception-based score for media analysis:** We rated media aspects based on perception to depict the strength of positive and negative sentiments expressed by stakeholders over the study's duration.

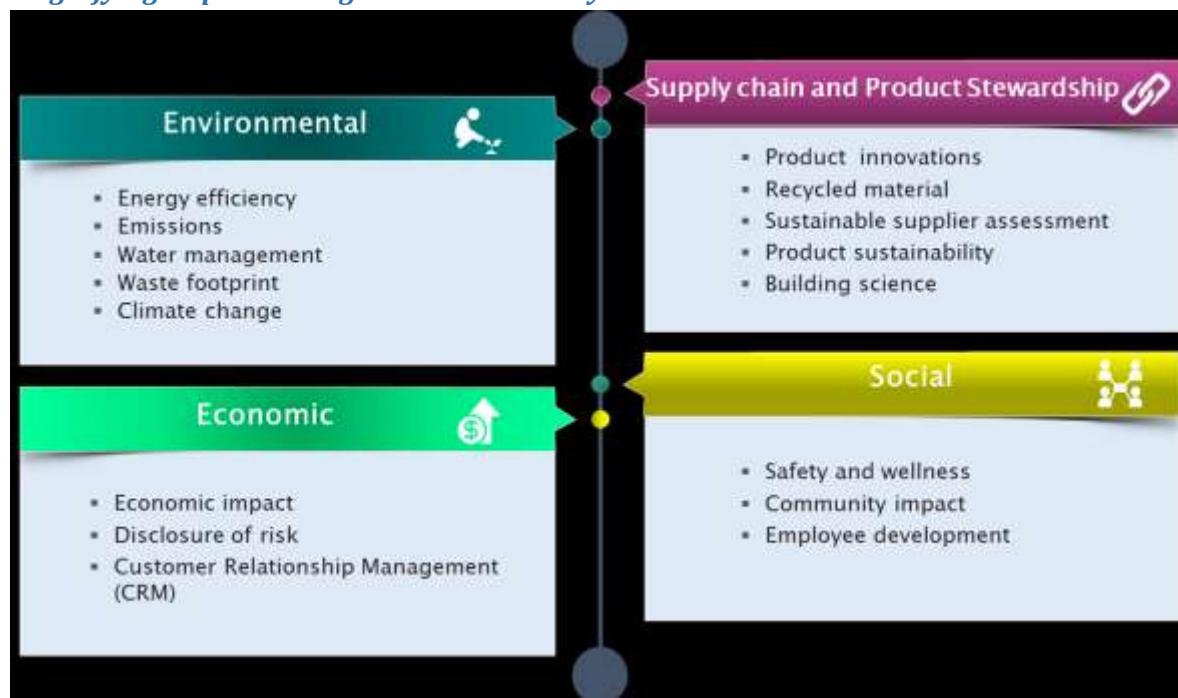
### *Definition of the Threshold*

We consolidated and normalized the scores derived for each aspect from all three analyses to create a list of 56 aspects. These aspects were further split into four broad categories – environmental, supply chain and product stewardship, economic, and social. Following this, we selected the top aspects above a threshold score from each category, arriving at 16 aspects to consider for further analysis.

### *Review and Classification of Important Material Issues*

The 16 material aspects were classified into four key themes or issues shown in Figure 4. For further details on the material aspects included in the old and new grids and their priority, please refer to Appendix 1.

### *Magnifying Impact through 16 Sustainability Initiatives*



At Owens Corning, we believe that responsible business operations can go hand in hand with high performance and profitability. It is this strong belief that helps us make sustainability one of our company values.

Figure 4. Four key themes or issues under which the 16 identified material aspects were classified

In this section, we take a look at some of our top initiatives across the 16 material aspects classified under four key themes – environmental, supply chain and product stewardship, economic, and social. These initiatives enable us to find answers to these critical questions: *How do we responsibly manage the impacts of our operations? What is the life span of a new*

*innovation? How do we communicate with credibility? How do we nurture a handprint mindset within our company?*

- 1. Energy efficiency:** We constantly strive to decrease our dependence on fossil fuels by leveraging alternative and renewable sources. We are focused on nurturing a portfolio of projects to reduce energy costs and usage, backed by our renewable energy sourcing strategies. By 2020, we aim to reduce our primary energy intensity (energy used per unit of product) by 20%.
- 2. Emissions:** One of our primary targets is to reduce greenhouse gas intensity by 50% and toxic air emissions intensity by 75% from our 2010 baseline figures. Apart from these, we are also working to reduce fine particulate matter released into air.
- 3. Water management:** Our water conservation and risk mitigation programs driven by plant-level efforts and engagement help reduce our water footprint. A deep understanding of water use, quality, and preservation enable us to achieve our water management goals.
- 4. Waste management:** By 2020, we aim to reduce the amount of waste to landfill (WTL) intensity (i.e., WTL disposed per unit of product) by 70%. Our efforts are also focused on responsibly managing waste and the destination for waste depending on the quality or type. We continue to develop mechanisms that produce less waste in our processes.
- 5. Climate change:** Our products and policies are driven by our overarching aim to safeguard, sustain, and improve the environment. We keenly 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.
- 6. Product innovation:** Since Owens Corning was founded in 1938, the company has continued to grow as a market-leading innovator of glass fiber technology. Our product portfolio has advanced over the years, reflecting our customers' growing needs for quality, value, and performance.
- 7. Recycled material:** We are one of the largest users of recycled glass for insulation products. Our process recycling focuses on recycling used material or byproducts in the

production process. Additionally, we have established a program for contractors and homeowners to recycle shingles and after tear-off as part of our end-of-life products recycling.

- 8. Supply chain sustainability:** As part of our supply chain initiatives, we have made significant progress in cleansing spend data and implementing governance processes, and measuring risk and supplier information by leveraging external data resources. We have developed new spend analytics dashboards and reports using SAP business intelligence tools traceability, transparency, and to assist in the measuring the impact of suppliers. This helps us measure progress of our suppliers, foresee risks and identify opportunities for partnerships to improve social, environmental and economic results.
- 9. Product sustainability:** We have been successful in ensuring a total lifecycle sustainability net-improvement for 61% of new products and 50% of new applications for our products. Furthermore, our team has created a comprehensive and user-friendly sustainability mapping tool. We have also expanded our positive impact by embracing new product designs that use less material.
- 10. Economic impact:** Our product mapping efforts have a deep impact on the economy. We constantly assess market conditions, and the impact of our products on the industry as well as the society. We are dedicated to being economically healthy having minimal environmental impact while leaving a positive stamp on our local communities.
- 11. Disclosure of risk:** We have a transparent policy for effective disclosure of identified risks and issues that impact our organization through stakeholder engagements and other communication. Our risk committee reviews the Owens Corning Risk Register and based on the findings, it identifies and implements the mitigation actions through the various business units.
- 12. Customer Relationship Management (CRM):** We have sound practices, strategies, and technologies in place to manage and analyze customer interactions and data throughout the customer lifecycle. This enables us to strengthen business relationships with customers, and improve customer retention.
- 13. Building science:** Through sustained partnerships with customers, specifiers, architects, and builders, we hope to drive net-zero energy building capabilities, thereby achieving no net carbon releases. We also aim to expand our building science expertise to educate the building industry, engineers, contractors, and homeowners on safe and efficient building materials.



**14. Safety and wellness:** We promote the health and wellbeing of employees by providing safe working conditions, flexible work arrangements, and more. We constantly promote preventive care, healthy mind, physical activity, nutrition, and a tobacco-free life.

**15. Community impact:** As part of our economic and community development initiatives, we have established baseline measures for community vitality of the regions in developing countries where our facilities operate. Furthermore, our charitable partnerships and product donations enable us to provide safe and efficient housing for those in need.

**16. Employee development:** We are focused on attracting and retaining a workforce that enables us to better meet our customers' needs and market trends. We also work towards fostering greater diversity in our global workplace.

### **Step 4: Maturity and Impact Assessment**

An integral part of the G4 guidelines is the Disclosure of Management Approach (DMA), according to which organizations need to explain how they manage the social, economic, and environmental impacts of their material aspects.

We conducted a DMA maturity assessment to analyze how we are currently managing the impact of each of the top 16 aspects identified and our readiness to report on these aspects in public forums. We analyzed our current goals, policies, and evaluation mechanism at the aspect level by conducting 16 workshops involving senior leadership. Based on the existing system and processes in place, we scored each aspect on a five-point scale using the scoring criteria defined by TCS.

DMA Maturity Assessment	1	2	3	4	5
Impact	No awareness on impact	Identified areas where organization makes an impact	Categorized the impact	Defined the process for rating the severity of impact	Communicated the impact to relevant stakeholders
Organization's approach	No defined policy and goals in place	Defined policy to manage impact of issues	Defined policy, and established goals and specific programs	Established multi-disciplinary team with designated responsibilities	Communicated the impact to relevant stakeholder
Monitoring mechanism	No defined metric for performance measurement	Established internal monitoring and external measurement system	Established internal and external monitoring mechanism	Ensured a system for frequent review of performance results at corporate level	Reported performance results on public platforms
Lowest				Highest	

**The Results: Our New Materiality Matrix**

We plotted the material issues and their ratings arrived through DMA maturity assessment on a materiality matrix. The internal stakeholders are represented on the X-Axis, the external stakeholders on the Y-Axis, and the impact of material issues on the Z-Axis (the size of the bubble indicates our maturity with reference to these aspects)

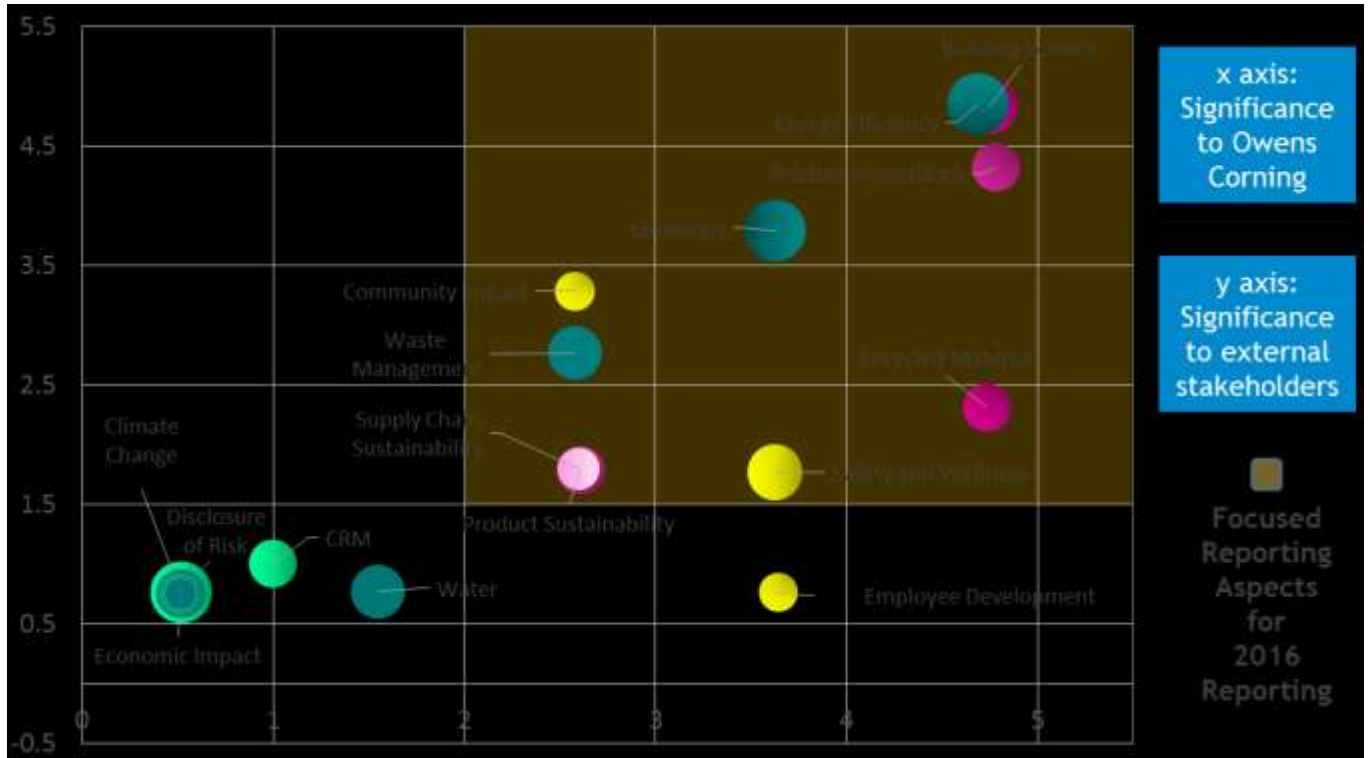


Figure 5. Materiality grid for 2016

### Creating a Roadmap for a Better Future

At Owens Corning, materiality assessment is not just an isolated process performed as part of financial reporting and compliance management. Instead, it is the first and critical step towards fulfilling our organization's overarching sustainability agenda. Materiality assessment helps us build a strong and trusted brand, and communicate our core values and principles to our global stakeholders. But above all, it effectively **informs and influences our strategic planning, operational and risk management, and capital investment decisions**, thus helping us provide greater value to all our stakeholders. This exercise helps us narrow down our focus to those tangible issues that have the most critical impact on society as well as our business.

**By centering our sustainability reporting on the key material issues, we are able to make our reports more relevant and credible, ultimately educating the markets and society about larger sustainability issues. With a dedicated and holistic approach to the initiative, we are now well positioned to evaluate if an identified material issue is a risk that we need to mitigate or an opportunity that we can pursue. We are thus able to drive strategic business and financial planning that will help grow our business in a sustainable ecosystem without straining valuable resources. By analyzing the rich data, we have collated on stakeholder perspectives, we are able to make responsible investment decisions and confidently meet our sustainability goals.**

### About the Report

Owens Corning is committed to providing transparency in reporting the long-term impact of its business activities on the society and the planet. We have made significant effort to adopt industry best practices and provide content that is valuable and useful to our key stakeholders.

### Reporting Period and Format

We carried out our materiality assessment process between 2015 and 2016. Our overarching goal was to place the strategic concerns of our key stakeholders at the core of our materiality assessment process. Therefore, we adopted a stakeholder format of reporting. We also followed the GRI-G4 reporting guidelines that provide an effective framework for a global multi-stakeholder engagement process.

### Aspect Boundaries: G4-18, G4-20, G4-21, G4-22, G4-23

Owens Corning has elected to respond to all the material aspects as per GRI G4.0 guidelines in 2016 Sustainability report. The boundary of all these aspects covers our global operations including Asia-Pacific, Europe, Latin America, Canada and United States.

Internal boundary includes Owens Corning's plants and offices that are owned and leased.

External boundary includes supplier locations, communities and customer locations where Owens Corning has control.

There are no significant changes from the last reporting period in the scope and boundary of material aspects, however few aspects have been replaced by new aspects in materiality grid 2016.

There has been no material restatements of information provided in the earlier report.

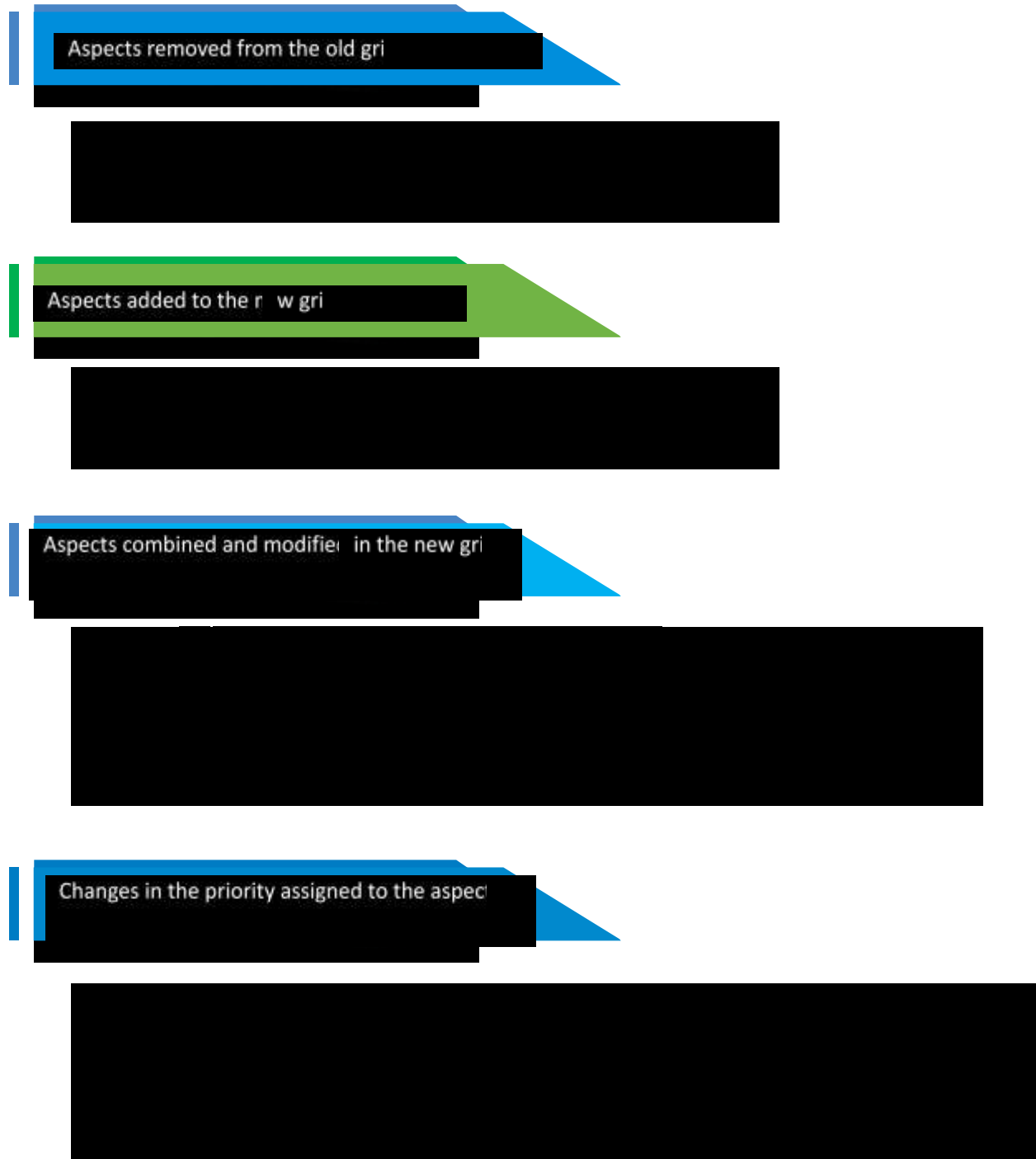
### Consulting Partner

We engaged Tata Consultancy Services (TCS) to perform our materiality assessment in line with our core business and operational risks. We chose TCS after an extensive selection process, based on its capabilities to fulfil our requirements. The company helped us conduct a series of interviews and workshops across our internal and external stakeholders. They supported us in determining the key challenges, issues, and areas of opportunity with respect to materiality. TCS' trusted experience enabled us to take an objective and comprehensive approach to our assessment as well as reporting strategy.





## Appendix 1

### A Comparative Analysis of New and Old Grids





## Appendix 2

### Stakeholder's interview chart

Interviews 2016		
S. No.	Designation 	Stakeholder Type 
1	Chief Sustainability Officer	Internal
2	VP, EHS	Internal
3	President, Roofing & Asphalt	Internal
4	VP, External Affairs	Internal
5	Director of Corporate Communication and Community Relations and President of the OC Foundation	Internal
6	Director, Environment & Safety, Roofing & Asphalt	Internal
7	VP, Operations Roofing & Asphalt	Internal
8	Director, Environment & Safety	Internal
9	VP & General Manager, Composite Solutions	Internal
10	SVP, Human Resources	Internal
11	Director, Innovation	Internal
12	Chief Procurement Officer	Internal
13	Chief Executive Officer	Customer
14	Professor	NGO
15	Project Manager	Customer
16	Merchandising Manager	Customer
17	Manager	Customer
18	Executive Director	NGO
19	Vice Chair-Marketing/Communications Community Volunteer	NGO
20	Procurement & Construction Service Manager	NGO
21	Sr. Business Development Manager	Supplier
22	Business Development Manager	Supplier
23	Vice President Technical Services	Supplier
24	Exec VP- Industry Strategy & Growth	Supplier
25	Marketing Manager	Supplier
26	Line Manager	Investor



Interviews 2014		
S. No.	Designation 	Stakeholder Type 
1	Chief Sustainability Officer	Internal
2	VP, EHS	Internal
3	Chief Innovation Officer	Internal
4	VP, External Affairs	Internal
5	Director of Corporate Communication & Community Relations	Internal
6	Manufacturing Leader	Internal
7	Product Mgmt/Mktg	Internal
8	SVP, Human Resources	Internal
9	VP of Distribution Sales	Internal
10	VP of Residential Insulation	Internal
11	Operations Vice President GRS	Internal
12	CFO	Internal
13	CEO	Internal
14	Sales Lead	Internal
15	Innovation Director Building Materials	Internal
16	Lead Marketing for the Building Materials	Internal
17	VP of Composites	Internal
18	Chief Procurement Officer	Internal
19	Senior Business Development Manager	Supplier
20	VP	Supplier
21	Manager	NGO
22	CEO, Home Builder	Builder
23	Residential Roofing Contractor	Contractor
24	Contractor	Contractor
25	Shareholder	Investor
26	National Account Manager	Supplier
27	VP of Supply Chain	Customer
28	Sr Mgr Environmental Team	Customer

## Economic Impact

Owens Corning is committed to balancing economic growth with social progress and environmental stewardship. Owens Corning is a world leader in composite and building materials systems, delivering a broad range of high-quality products and services. 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.

### Driving Sustainable Economic Growth

At Owens Corning, we believe that environmental sustainability is central to economic growth. We are committed to balancing economic growth with social progress and environmental stewardship to continue delivering sustainable solutions to our customers and stakeholders across the globe.

Owens Corning's economic progress can be measured by its financial indicators and robust performance across each of its businesses. In 2015, we were able to show positive results and Owens Corning delivered an outstanding year. The Company is at our best when all of our businesses make meaningful contributions to our financial results. All three businesses posted significant earnings growth for the year, and the Company achieved record earnings growth. In addition to these business results, based on the strength exhibited across our portfolio and confidence in our market outlook, our Board of Directors declared a quarterly dividend of \$0.18 per share, representing a 6% increase. Since the dividend was initiated two years ago, we've increased the payout by approximately 13%.

### Key Sustainability Indicators

Our key focus is to achieve operational sustainability by reducing our environmental footprint, in line with our global stakeholder 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.

Based on stakeholder feedback, we have charted a clear course of action to drive product and supply chain sustainability through enhanced engagement and by enabling product life cycle transparency.

Our 2015 product responsibility goals make transparent the total life cycle assessment (LCA) of all core products.

A key aspect of honoring our social responsibility is ensuring community impact through local community initiatives.

Through sustained partnerships with customers, specifiers, architects, and builders, we hope to drive net-zero energy building capabilities, thereby achieving no net carbon releases. We also aim to expand our building science expertise to educate the building industry, engineers, contractors, and homeowners on safe and efficient building materials.

We consider the safety and wellness of our employees to be our 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.

## Economic Performance (G4-EC1)

Period Ending	Dec 31, 2015	Dec 31, 2014	Dec 31, 2013
<b>Total Revenue</b>	<b>5,350,000</b>	<b>5,260,000</b>	<b>5,295,000</b>
<b>Cost of Revenue</b>	<b>4,197,000</b>	<b>4,284,000</b>	<b>4,329,000</b>
<b>Gross Profit</b>	<b>1,153,000</b>	<b>976,000</b>	<b>966,000</b>
<b>Operating Expenses</b>			
Research Development	73,000	76,000	77,000
Selling General and Administrative	532,000	508,000	504,000
Non Recurring	-	-	-
Others	-	-	-
<b>Total Operating Expenses</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Operating Income or Loss</b>	<b>548,000</b>	<b>392,000</b>	<b>385,000</b>
<b>Income from Continuing Operations</b>			
Total Other Income/Expenses Net	5,000	(46,000)	-
Earnings Before Interest And Taxes	553,000	346,000	385,000
Interest Expense	100,000	114,000	112,000
Income Before Tax	453,000	232,000	273,000
Income Tax Expense	120,000	5,000	68,000
Minority Interest	(4,000)	(2,000)	(1,000)
<b>Net Income From Continuing Ops</b>	<b>335,000</b>	<b>180,000</b>	<b>204,000</b>
<b>Non-recurring Events</b>			
Discontinued Operations	-	-	-
Extraordinary Items	-	-	-
Effect Of Accounting Changes	-	-	-
Other Items	-	-	-
<b>Net Income</b>	<b>330,000</b>	<b>226,000</b>	<b>204,000</b>
Preferred Stock And Other Adjustments	-	-	-
<b>Net Income Applicable To Common Shares</b>	<b>330,000</b>	<b>226,000</b>	<b>204,000</b>

Figure 1: From 2015 10K

Economic (in millions)	2015	2014	2013	2012	2011
<b>Sales</b>	<b>5,350</b>	<b>5,260</b>	<b>5,295</b>	<b>5,172</b>	<b>5,335</b>
United States	3,697	3,557	3,644	3,504	3,552
Europe	515	575	545	558	619
Asia Pacific	662	636	627	639	674
Canada and Other	476	492	479	471	490
<b>Cost of sales</b>	<b>4,197</b>	<b>4,284</b>	<b>4,329</b>	<b>4,375</b>	<b>4,307</b>
<b>Science and Technology (R&amp;D) expenses</b>	<b>73</b>	<b>76</b>	<b>77</b>	<b>79</b>	<b>77</b>
Cash paid for income taxes	33	19	29	30	24
Purchases of treasury stock	140	44	63	113	138
Cash paid for interest	113	122	126	122	111
Additions to plant and equipment	393	374	311	332	442
Cash Giving	2	2	1	1	1
<b>Total Assets</b>	<b>7,380</b>	<b>7,542</b>	<b>7,647</b>	<b>7,568</b>	<b>7,527</b>
<b>Long-term debt</b>	<b>1,702</b>	<b>1,978</b>	<b>2,024</b>	<b>2,076</b>	<b>1,930</b>
<b>Total Equity</b>	<b>3,779</b>	<b>3,730</b>	<b>3,830</b>	<b>3,575</b>	<b>3,714</b>

Figure 2: Owens Corning 2015 Business Metrics Performance Summary

## Pension Liabilities (G4-EC3)

We believe that our employees are integral to our success. We are committed to providing comprehensive retirement benefits to all employees.

Generally, retirement benefits are offered to employees 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 the employer's defined benefit obligations are payable through a fund held and maintained separately from the resources of the organization.

The U.S. qualified plan is 101.42% 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 DB liabilities.

Owens Corning's 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 programs (Excludes jurisdictions where participation is mandatory).

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

## Financial Assistance (EC4)

Owens Corning receives financial assistance in the form of tax credits (see Figure 3).

Details	Currency	Value
<b>U.S. Research and Development Credits</b>	USD	1,600,000
<b>Italy Energy Subsidy</b>	EUR	459,000
<b>France R&amp;D credit</b>	EUR	2,451,000
<b>France CICE credit</b>	EUR	955,000

Figure 3: Tax Credits

There is not a government presence in the company's shareholding structure.

## Compensation Model (G4-EC5)

Compensation at Owens Corning is designed to be competitive at 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. The entry level wage is not dependent on gender.

In addition to employee base pay, most 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. 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 since 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 to meet and exceed desired performance objectives by reinforcing behaviors necessary to achieve success. Our talent management strategy and employee development processes and programs are aligned with the Company's objectives and business strategy. In order to ensure we bring in the correct talent to our team, we look at our business needs first 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 both individual and collective contributions to our business's 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. Most 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 website](#).

## Local Hiring (EC6)

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

- In 2015, we hired 90% of senior management at significant locations of operations (see Figure 4) from local communities. Owens Corning defines senior management as key general managers and business leaders at significant locations of operation as those with a specific key general manager or business leader having responsibility for the location.
- 18 of our 20 key general managers/business leaders belong to the local country of operation.
- The senior leaders that were not sourced from local residents are internal transfers sent to an international location as an expatriate for their growth and development as a global leader, leading to increased cultural and business intelligence.

<b>Significant Locations of Operation</b>	<b>Percentage of Senior Leadership Hiring from Local Communities</b>
<b>Toledo World Headquarters</b>	<b>100% (15/15)</b>
<b>Asia Pacific Headquarters</b>	<b>0% (0/1)</b>
<b>Chambery, France</b>	<b>50% (1/2)</b>
<b>Granville, Ohio, U.S.</b>	<b>100% (1/1)</b>
<b>European Headquarters</b>	<b>100% (1/1)</b>

Figure 4: Owens Corning Percentage of Senior Leadership Hired from Local Community

## Disclosure of Risk

At Owens Corning, we focus on proactive risk mitigation by identifying potential risks and prioritizing them based on business impact. We leverage 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 is a high priority area for Owens Corning. We identify and manage risk opportunities 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.

The Company has a Risk Committee that considers significant risk to the corporation. They have a process in which they:

- Review the Owens Corning Risk Register substantiated by business and functional reviews – risks are prioritized based on their placement on the register;
- Align around key mitigation programs – Based on the Risk Assessment Register outputs, the risk committee identifies the various mitigation actions to be taken and a planned approach is taken towards implementing the same through businesses;
- Review the Risk Register with Executive Committee – All risk assessment results and outputs are reviewed by the Executive Committee and feedback received is incorporated in the action register and also reflected in the mitigation planning;
- Meet yearly as a Risk Committee – The Risk Committee meets annually to review the existing risk aspects, add any new risks being identified from internal or external sources, and update any risks which are no longer considered applicable to the businesses. The Risk Committee also reviews the mitigation actions and outputs for the annual cycle; and
- Provide yearly update to the Owens Corning Board of Directors.

To ensure continuous improvements in the risk management framework, we apply best practices, participate in public disclosure forums such as GRI, and disclose risk management processes to evaluate our performance against global benchmarks. We perform materiality assessment of our disclosures on risk management, a material aspect for Owens Corning's investment community. This helps better analyze and monitor our risks and opportunities for improved investment decisions.

Owens Corning reports our detailed risk assessment process in our CDP Climate Change response.

### Stakeholder Consultation on Risks and Opportunities (G4-45)

At Owens Corning, we proactively engage with individuals, groups, and organizations that are impacted by our business operations to understand their expectations. As a part of the process, we have implemented a structure 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.

## **Impact of Owens Corning's operations on stakeholders**

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

### **Risk Assessment Framework (G4-45, 46, 47)**

We use an integrated risk assessment framework that ties into a multi-disciplinary company-wide risk management process. The framework includes risk identification, prioritization, and alignment of mitigation plans with business goals.

#### **Identification**

Our business units leverage 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 where Y-axis is a measure of financial impact and 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. Risks plotted in green indicate an acceptable level of exposure, yellow indicates mitigation plans that are actively in place, and red indicates areas where improved risk mitigation is needed.

#### **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 annually. 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 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.





Figure 1: Owens Corning risk mitigation framework

## Key Risks and Opportunities (G4-2)

We discuss the business risks in-depth in our 10K report. Details of our risk factors can be found on page 4, whereas details of our market risk are available on page 34. In addition, risks related to climate change, including how they are currently managed, are discussed in our CDP response, 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 response, questions 2.1 and 6.1.

The risks that directly impact our operations include:

### **Regulatory risks**

Regulatory risks are described below and detailed in our public CDP Climate Change Response. 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 risks 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 superior financial, technical, marketing, and other resources 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 introduction by competitors of new products or technologies that may address our customers' needs in a better manner, whether based on considerations of pricing, usability, effectiveness, sustainability, quality, or other features or benefits. If we are not able to successfully commercialize our innovation efforts, we may lose market share.

Price competition or overcapacity may limit our ability to raise prices for our products when necessary, may force us to reduce prices and may also result in reduced levels of demand for our products and cause us to lose market share. In addition, in order to effectively compete, we must continue to develop new products that meet changing consumer preferences and successfully develop, manufacture, and market these new products. Our inability to effectively compete could result in the loss of customers and reduce the sales of our products, which could have a material adverse impact on our business, financial condition, and results of operations.

## **Industry risks**

A large portion of our products are used in the markets for residential and commercial construction, repair and improvement, and demand for certain of our products is affected in part by the level of new residential construction in the U.S., although typically not until a number of months after the change in the level of construction. Lower demand in the regions and markets where our products are sold could result in lower revenues and lower profitability.

Historically, construction activity has been cyclical and is influenced by prevailing economic conditions, including the level of interest rates and availability of financing, inflation, employment levels, consumer spending habits, consumer confidence, and other macroeconomic factors outside our control.

## **Customer loss and global political risk**

Three key aspects that can increase our global political risk include lower demand for our products, loss of key customers, and material changes to contractual terms.

## **International operations**

We are subject to risks associated with our international operations. We sell products and operate plants throughout the world. Our international sales and operations are subject to risks and uncertainties, including:

- Difficulties and costs associated with complying with a wide variety of complex and changing laws, including securities laws, tax laws, employment and pension-related laws, competition laws, U.S. and foreign export and trading laws, and laws governing improper business practices, treaties, and regulations;
- Limitations on our ability to enforce legal rights and remedies;
- Adverse economic and political conditions, business interruption, war, and civil disturbance;
- 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. and our 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 anti-corruption laws. The FCPA and similar anti-corruption 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 anti-corruption laws and maintain an anti-corruption 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 anti-corruption, 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 the 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 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 non-performance 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 and Opportunities (G4-EC2)

Climate change risks and opportunities are fundamentally driven by three factors regulations, physical climate factors, and other climate related variations.

## Risks

### Changes in Regulation

- **Risk:** Air pollution limits
- **Description:** Recent interpretation of the Clean Air Act could limit or even prohibit the use of specific raw materials in select Owens Corning products due to GHG emissions, requiring Owens Corning to alter product specifications and/or changing production locations. This could disrupt or reduce Owens Corning's production capacity.
- **Potential impact:** Reduction/disruption in production capacity
- **Timeframe:** 1 to 3 years
- **Impact:** Direct
- **Likelihood:** About as likely as not
- **Magnitude of impact:** Medium-high
- **Estimated financial implications:** \$5 million - \$20 million
- **Management method:** Our management action plan is to proactively expend Research and Development resources to either deliver revised product formulations or to have additional engineering solutions in place prior to the enforcement date of the tighter restrictions. The goal of this plan would be to prevent government fines or loss of sales, and it may have the potential to change this risk into an opportunity for increased market share if our competition is behind in modifying their products. Owens Corning implemented EcoTouch® insulation which replaces formaldehyde-based binder with a nonhazardous starch-based binder. This insulation is the first fiberglass insulation to be certified by the U.S. Department of Agriculture (USDA) as a biobased product. In 2015, Owens Corning evaluated and implemented changes in our foam process which provide for lower GWP.
- **Cost of management:** \$1 million - \$3 million

### Changes in Regulation

- **Risk:** Air pollution limits
- **Description:** Broad and gradual tightening of limits on emissions by federal governments, the EPA, or state-run EPAs could impact Owens Corning by causing a disruption in production capacity across our portfolio. For example, given our global nature, we are impacted by country specific/regional CO<sub>2</sub> regulations for the majority of our businesses. Aggressive CO<sub>2</sub> regulations could disrupt our use of specific raw materials in specific regions, which in turn would disrupt our production capacity for products using those materials.
- **Potential impact:** Reduction/disruption in production capacity
- **Timeframe:** >6 years
- **Impact:** Direct
- **Likelihood:** Likely
- **Magnitude of impact:** Low
- **Estimated financial implications:** \$1 million - \$5 million
- **Management method:** Our management action plan is to proactively expend Research and Development resources to deliver revised product formulations or to have additional engineering solutions in place prior to the enforcement date of the tighter restrictions. The goal would be to prevent government fines or loss of sales, and it may have the potential to change this risk into an opportunity for increased market share if our competition is behind in modifying their products. In 2015, Owens Corning commissioned a new facility in Gastonia, North Carolina, with state-of-the-art equipment that will add manufacturing flexibility to produce the company's new Sustaina®

non-woven glass fiber fabric. This product uses a bio-based binder system with high tensile strength performance and does not contain formaldehyde. Additionally the facility has an on-site business center being built to be LEED certified. As part of the 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 evaluates how a new product or process will impact our sustainability goals and drive decisions in the design phase for more sustainable products. In 2015, 61% of new products and 50% of new applications show net sustainability gains, most frequently caused by product developments that improved our manufacturing footprint (lower plant air emissions, lower material consumption, lower energy usage and higher process efficiencies).

- **Cost of management:** up to \$5 million

#### Changes in Physical Climate Parameters

- **Risk:** Other physical climate drivers
- **Description:** Many of Owens Corning's business activities involve substantial investments in manufacturing facilities and many products are produced at a limited number of locations. These facilities could be materially damaged by natural disasters such as floods, tornados, hurricanes, and earthquakes, or by sabotage. Owens Corning could incur uninsured losses and liabilities as well as disruptions in production capacity. In addition, natural disasters pose a significant threat to the safety of our employees, contractors, and customers.
- **Potential impact:** Reduction/disruption in production capacity
- **Timeframe:** 1 to 3 years
- **Impact:** Direct
- **Likelihood:** More likely than not
- **Magnitude of impact:** Low
- **Estimated financial implications:** Estimated financial implication is \$5 million to \$10 million per incident net of insurance recovery
- **Management method:** Insurance, loss prevention, and business continuity programs are in place. The loss prevention program focuses on proactively preventing or mitigating damages. Our business continuity program is an integrated approach that involves supply chain and product stewardship to enable redundant production at alternate locations and the means to deliver to customers. This program is expected to ensure customer delivery with a minimum of delay/disruption, as well as shorter production down times at our facilities to minimize production losses. Owens Corning's commitment to safety is unconditional. As such, we continuously review and update our emergency procedures throughout all our facilities. Owens Corning facilities also maintain backup generators, tornado and storm shelters, and rigorous drill schedules to ensure employee and visitor safety. In some plants we have raised electrical equipment further off the ground in the event of flooding. At one plant we have increased the size of a dike to prevent or minimize flood damage. One specific example of how Owens Corning has managed this risk is by the development of region specific products like regional roofing shingles. These regional shingles are important to mitigate the impact of damage to a particular plant. This way we can have consistent colors across many of our roofing plants to prevent issues with mixing shingles from different plants in the event of a disaster.
- **Cost of management:** Up to \$2 million for administration of programs and for physical loss prevention improvements. Owens Corning has a dynamic safety program that maintains and executes safety strategies, so there is minimal incremental cost to offset the risk of severe weather with respect to employee and visitor safety.

## Changes in Other Client-Related Developments

- **Risk:** Reputation
- **Description:** Many of Owens Corning's products are made from heavy manufacturing processes. While Owens Corning continuously strives to be better than regulatory requirements, our factories do produce pollutants. This exposes the company to reputational risk in areas with active environmental advocacy groups. There is additional reputational risk for Owens Corning if the potential effects of climate change worsen. This could cause us to lose customers and sales to competing solutions.
- **Potential impact:** Other: Reduction in Sales
- **Timeframe:** Up to 1 year
- **Impact:** Direct
- **Likelihood:** About as likely as not
- **Magnitude of impact:** Low
- **Estimated financial implications:** \$1 million to \$5 million. Negative public perceptions of Owens Corning's products and production process could impact our sales and profitability. With sales of over \$5 billion in 2014, even a very small impact on sales could cost Owens Corning \$5 million or more.
- **Management method:** Our Sustainability organization actively and broadly promotes our company's stand for sustainability in the community, throughout our company, and publicly through our sustainability website and annual GRI report. We invest continuously in the reduction of our environmental footprint. At the local level, our plants reach out to their neighbors to cultivate strong relationships with residents and community leaders. Overall, our company works hard to promote the value of our products in reducing GHG emissions and in reducing energy consumption, as well as to clearly communicate our efforts to be a net-positive company by reducing our footprint and increasing our handprint. Owens Corning in 2015 made significant renewable energy investments. We installed a solar array at our corporate headquarters to satisfy about 30% of the buildings energy needs and offset the equivalent GHG emitted from the building's commuters. Additionally we held a learning forum for other companies on October 30, 2015, in conjunction with the commissioning of the solar array. The forum focused on renewable energy and industrial scale energy efficiency. Participants were about 125 external and internal stakeholders including suppliers, community representatives, NGOs, and university students. Two panels of subject-matter experts shared approaches and best practices. Feedback from the event was outstanding. Owens Corning demonstrated its willingness to advance the common good toward renewable energy and energy efficiency.
- **Cost of management:** Up to \$5 million. Owens Corning invests in the communities where we operate at the plant level, corporately, and through the Owens Corning Foundation. These investments include product donations, employee volunteering, and direct financial support. Owens Corning also has a variety of energy and greenhouse gas reduction projects ongoing and in the pipeline.

## Opportunities

### Changes in Regulation

- **Opportunity:** Product efficiency regulations and standards
- **Description:** More aggressive building codes and regulations regarding energy efficiency drive the use of Owens Corning's insulation and other energy savings products and systems. Increased transportation industry related energy efficiency regulations help drive the use of lighter

and stronger materials like our glass-fiber reinforcements. Demand for products in our roofing business is generally driven by both residential repair and remodeling activity and by new residential construction.

- **Potential impact:** Increased demand for existing products/services
- **Timeframe:** Up to 1 year
- **Impact:** Direct
- **Likelihood:** More likely than not
- **Magnitude of impact:** Medium
- **Estimated financial implications:** Up to \$200 million
- **Management method:** Owens Corning actively lobbies the U.S. DOE and other legislative bodies through our Governmental Affairs organization for increased energy conservation requirements. In support of these efforts and in anticipation of tighter standards, Owens Corning's Conscientious Builder Program identifies builders that strive to build net-zero buildings. These builders have partnered with us to capitalize on our building science knowledge and experience. In 2015, we partnered with builders throughout the U.S. and Canada who are building in a wide variety of climates, regions, and communities. Our deep commitment to help builders turn building science into building genius was brought to life in the 2016 edition of The New American Home in Las Vegas. One example of this is our work with the Canadian government's Natural Resources Canada (NRCan). NRCan received funding to support energy technology innovation to produce and use energy in a cleaner and more efficient way. As part of this initiative, NRCan in partnership with Owens Corning leads the housing industry in an effort to combat the ever growing effects of climate change and global warming. Five builders across Canada in Quebec, Ontario, Nova Scotia, and Alberta were selected to develop the next generation of Canadian homes: [Net Zero Energy Homes](#).
- **Cost of management:** Up to \$1 million

#### Changes in Physical Climate Parameters

- **Opportunity:** Change in precipitation extremes and droughts
- **Description:** Demand for products in our Roofing business is generally driven by both residential repair and remodeling activity and by new residential construction. As the effects of climate change are felt in the increased frequency and severity of storms, Owens Corning as a building materials company may see an increased demand for our products in our Roofing business due to storm related roof damage.
- **Potential impact:** Increased demand for existing products/services
- **Timeframe:** Up to 1 year
- **Impact:** Direct
- **Likelihood:** About as likely as not
- **Magnitude of impact:** Medium
- **Estimated financial implications:** Up to \$100 million
- **Management method:** Owens Corning has a strong network of U.S. facilities. Through sophisticated supply chain planning, production from each of these locations can be redirected to serve a storm damage market. Over the last few years and continuing in 2015, Owens Corning has been developing regional shingles that dramatically improve our ability to get shingles to weather impacted areas from multiple plants. With state of the art technology and stringent testing requirements, Owens Corning Roofing is able to provide regional shingles that allow more efficient service during storm surge demand, more flexibility for multiple locations, and easy inventory management. A regional shingle is a shingle produced at different manufacturing facilities, tested and proven to be color matched to allow mixing between all or some of the

producing manufacturing facilities in a specific region. We feel our regional shingle gives us the flexibility to have a competitive advantage in storm reaction time.

- **Cost of management:** Zero incremental management costs. Increased freight costs are easily passed through in price when serving storm ravaged areas.

## Other Risks

As part of GRI G4 reporting process, we are also evaluating our operations for the following risks:

### Freedom of Association and Collective Bargaining Risks (G4-HR4)

An independent trade union represents 65% of our employees who are also covered by collective bargaining agreements. To support employee rights to exercise freedom of association and collective bargaining, we have enabled ten consultations/negotiations with trade unions over organizational changes, including restructuring and outsourcing.

### Child Labor and Forced Labor Related Risks (G4-HR5, HR6)

Our equal opportunity policy has appropriate clauses and checks to prevent child labor or forced labor. Owens Corning defines child labor as work or service extracted from anyone under the age of sixteen, and defines forced labor as any work or service not voluntarily performed and extracted from an individual under threat of force.

Through a strong governance process, we ensure that we do not engage with a supplier or distributor or enter into a joint venture with an organization that employs or subcontracts child labor or forced labor. We are a signatory to the United Nations Global Compact (since 2010) which is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment, and anti-corruption. By aligning with UN Global Compact we ensure that advancements in markets, commerce, technology, and finance can benefit economies and societies across geographies.

Principle 5 of the UN Global Compact is concerned with the effective abolition of child labor. It is our highest priority to ensure that none of our operations are identified as a significant risk for child labor practices. Given our stringent focus on preventing child labor, no case of child labor has been reported in 2015. Principle 4 of the UN Global Compact is concerned with the elimination of all forms of forced and compulsory labor. We do not have any operations at risk with respect to forced or compulsory labor practices. No cases of forced or compulsory labor were reported in 2015.

### Anti-corruption (G4-SO3)

At Owens Corning, we ensure compliance with anti-corruption laws and maintain an anti-corruption compliance program to prevent violations by any of our employees or agents. All of our business units have been analyzed comprehensively for risks related to corruption.



## 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 (G4-PR5)

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 the behalf of our customers across the globe. We operate in three different segments today: Insulation, Roofing and Asphalt, and Composite Solutions. Since most of our customers are business to business (B2B), we provide them digital solutions and mobile communications tools to have a more productive, flexible, working experience through quality, professionalism, and innovative products. This helps them in differentiating their businesses and achieving a higher level of environmental stewardship.

**Customer Satisfaction Surveys:** Customer satisfaction is one measure of an organization's sensitivity to its customers' needs and preferences and is essential for long-term success. We conduct annual customer satisfaction surveys to measure and track satisfaction on a quantitative basis. The survey allows us to measure Owens Corning's performance on three key performance indicators: Customer Experience, Customer Satisfaction Score, and Net Promoter Score (NPS). Results are broken down to the business level and reported to the national leadership team twice a year. We launched the customer satisfaction survey for transactional customers.

In 2015, we collected feedback from several thousand customers. The survey allows us to not only measure overall satisfaction and the NPS, but also go into more detail across customer touch points to help drive specific improvements. Action plans are created as a result of the survey results to drive positive change for our customers. The results from these questions help Owens Corning identify key drivers of satisfaction and provide areas of more targeted research or action. The NPS has increased every year since measurement began for building materials customers in North America. The driver of the Customer Satisfaction Score is a question in the survey stating, "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 survey results, the combined building material section of our business had the highest customer satisfaction score in 2015 in the five years we have been using this methodology.

### Sustainable Product and Services for Customers

Through customer-inspired products and solutions, we offer proven performance to make homes and buildings more comfortable and energy efficient. Our insulating products help customers conserve energy, provide improved acoustical performance, and offer convenience of installation and use, making them a preferred insulating product for new home construction and remodeling. These products 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<sup>®</sup> FIBERGLAS<sup>™</sup> Insulation.

Our strategy for product certifications is driven by customer requirements. We use third-party organizations to test and certify product attributes and to disclose environmental and human health impacts. Facilities receive internal audits from the Global Safety and Environmental organization which

verify and document the status of management systems during scheduled audits. Post assessment reports are published and items identified for improvement are incorporated into the facility improvement plan. Critical items are directed to the Vice President of Environmental Health and Safety and Operations Sustainability.

## Customer Privacy (G4-PR8)

Owens Corning strongly believes in protecting the privacy of customers who entrust us with their personal information. One of our data privacy commitments is towards the assurance of security and privacy of information and ensures strong policies to avoid increasing costs of breaches and negative reputational impact. Owens Corning collects customer information using a Customer Relationship Management database/system through a global customer database system. We have implemented an enterprise wide SAP system which tracks order fulfillment and customer service history and complies with our privacy policies.

All personal data held by Owens Corning must be treated as confidential. Owens Corning will 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. Owens Corning will 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.

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 and regulatory bodies in 2015.

## Customer Relationship Management Systems

**Customer Discover Process:** We have a customer discover process with selective customers to have more personal, candid conversation on how and where we are currently 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 and the data is also rolled up and reviewed at a DVP/channel level to feed investments and strategy. This metric compliments the satisfaction results and translates to stronger partnerships and growth opportunities with our customers. This data is analyzed on a quarterly basis and factors into our strategic planning process, new product innovation, and functional area improvements and feeds business cases for investment.

**New Digital Commercial Product Guide:** Owens Corning announced a new interactive digital Division 22/23 Mechanical Manufacturer's Guide eBook in 2012 to make it convenient for mechanical engineers and building specifiers to access key product information while on job sites or at the office. This portfolio of interactive content meets growing industry demand for digital and mobile communications solutions.

**SAP CRM App:** In 2014, Owens Corning upgraded to SAP 6.0 and added the SAP CRM app that allows a sales agent to bring up all the customer information, ordering patterns and delivery patterns instantly, instead of asking so many questions. This information access means a high-touch level of service and a faster, more efficient ordering process.

## Monitoring Mechanism

We have product and program leaders recognized as product knowledge experts for their product segment. These leaders monitor market needs and requirements, taking into account future technologies, codes and standards, competitor products/services and regulatory issues to develop and implement innovative customer solutions for existing and new products. This review process assists us in making decisions for investment and how we can contribute more to our customer's business success.

Feedback from customers is primarily collected in two ways. First, the Director of Business Insights is accountable for generating, analyzing and reporting the results from the semi-annual customer satisfaction survey and other episodic research into specific market, customer, and influencer groups. The analysis of these data is often combined and correlated against other financial and operating data. The second customer feedback data collection mechanism is the continuous reporting and collection of service and product exceptions by service, sales, and technical teams. The Supply Chain Vice President has accountability to assure these episodes are all documented to assure resolution and to allow for aggregation and management reporting.

Internal performance metrics are combined with customer feedback, product and competitive audits and data, and results provided to commercial and product development leadership. Owens Corning operates a matrix organizational structure, whereby multiple leaders and teams are involved in the review of information and alignment on the appropriate corrective actions. This includes manufacturing operations, supply chain, marketing, sales and commercial leadership. Goal-setting is harmonized across the organization to assure a unified approach to service and materials replenishment for continuous improvement.

All product performance and customer feedback data is reported to product and commercial leadership and is used in their evaluation of improvement requirements.

# Energy

## Adopting a Holistic Approach to Drive Energy Efficiency

While operational excellence is at the heart of what we do at Owens Corning, sustainability lies at the core of our product design. As a glass manufacturing organization we are very energy intensive and understand the impact this has on the environment. We are passionate about taking a holistic approach to energy management (see Figure 1). We continue to invest in research and development to create energy efficient products and implement energy reduction programs across our businesses globally.

All of our sustainability initiatives align with our long-term goal of increasing our handprint while reducing our environmental footprint. Leveraging our extensive capabilities in building science, we have created energy saving products in our different business lines.

In addition, by analyzing and identifying energy saving opportunities across the globe, we have been able to establish on-site renewable programs in collaboration with external partners. Owens Corning supports policies that promote increased energy efficiency in new and existing commercial and residential buildings, enhanced energy building codes, incentives for existing homeowners, and incentives for wind energy. We believe building science is an integral part of what builders use today as tools to achieve better-performing buildings. Owens Corning has a long history of developing innovative energy saving solutions, collaborating with others to design, build, and retrofit buildings for improved performance, and supporting codes and standards organizations with its technical expertise.

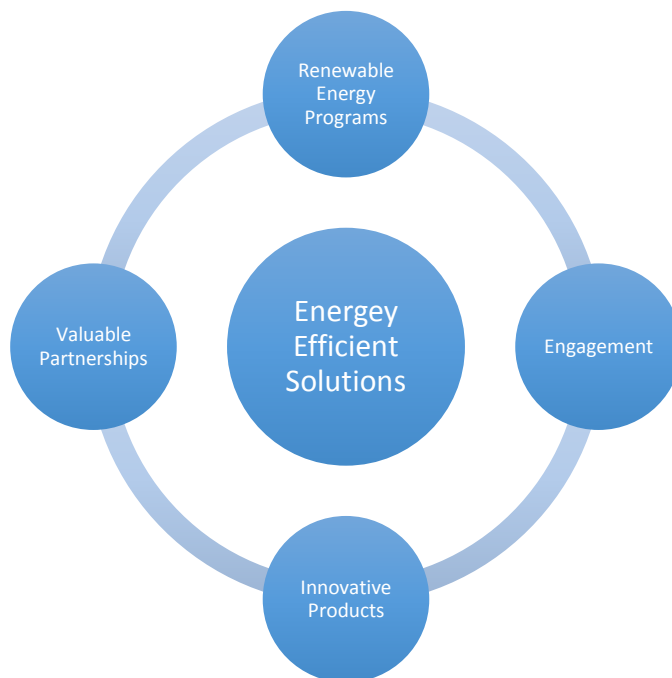


Figure 1: Owens Corning's holistic approach to energy management

## Our Energy Strategy

Investing in energy conservation projects and promoting the use of renewable energy sources remains one of our top priorities. Given our commitment to sustainability across the value chain, Owens Corning tracks our primary source energy along with the conventional consumed energy. Primary energy (as defined by 'Save Energy Now – Energy Baseline Guidelines') accounting assures that the total energy required to generate, transmit, and, distribute electricity from the power generation source to the end user is factored into a company's energy consumption metrics.

Our goal is 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 2015 we achieved a reduction of 17% in primary power intensity as compared to 2010, which corresponds to a 17% decrease in consumed energy intensity since 2010.

As a part of the U.S. Department of Energy's (U.S. DOE) program Energy Better Buildings, Better Plants Program, we have committed to a 25% reduction in our primary energy footprint from 2010 base year to 2020 in the United States.

## Achieving Energy Efficiency: A Snapshot of our 2016 to 2020 Action Plan

- **Energy Efficiency Programs in the Pipeline:** Owens Corning is committed to reducing our energy intensity through energy efficiency programs implemented across our company to meet our 2020 goals. Examples of the types of programs we would implement include lighting upgrades; replacement of pumps and exhaust fan VFD's; replacement of pneumatic air cylinders to AC servo motors; V-notched belt drive conversions; automation/controls to reduce energy; compressed air system optimizations; air compressor replacements; HVAC replacements; RTO replacements, natural gas to electric conversions; energy metering projects; use of waste heat recovery in additional plants; and implementation of energy efficiency projects during large capital projects.
- **Renewable Energy Projects:** Owens Corning continues to explore opportunities to expand our investment in renewable energy across our portfolio.
- **Sharing and Expanding Energy Efficiency Programs:**
  - Owens Corning's Chambery, France, location obtained ISO 50001 certification in May 2016. We look forward to opportunities to share best practice, of this initiative across our business units.
  - We will continue to capitalize on rebates and incentives offered from the utilities. An example of this type of work is showcased in a [case study on Toronto, Canada's energy lighting upgrade](#). To further our commitment at the Toronto plant, Owens Corning plans to apply for the new performance-based program being offered by Toronto Hydro. Through this program we will hire a full-time Energy Manager, using funds from Toronto Hydro based upon annual energy savings targets.
  - Our plants will continue to engage with U.S. DOE's Better Plants program by utilizing their resources and support.
- **Enforcement of Energy Standards across the Organization:** Owens Corning will continue to source with preferred vendors for compressed air assessments and natural gas leak audits.
- **Training on Energy Efficiency Programs:**

- We are committed to bimonthly conference calls to discuss best practices with vendors, consultants and Plant Energy Leaders, which include presentations and training.
- We will continue to engage our teams at a local level in training offered by their utilities.
- Our energy teams will participate in webinars and education opportunities to further our goals.
- **Future Partnerships to Enhance Energy Efficiency/Conservation across the Organization:**
  - Owens Corning recently implemented use of Resource Advisor with Schneider Electric for global tracking of all utility invoicing. We will be looking at opportunities to expand this relationship and build a robust platform to better engage our teams across the Company.
  - We plan to engage further with Better Plants to discuss how they could support Owens Corning's energy initiatives and to evaluate how their resources could help us on future projects.
  - Deepen our relationship with EPA's ENERGY STAR program and their partners to expand our knowledge and share best practices with other organizations.
  - We will continue benchmark efforts with ENERGY STAR Partner companies and bring best practices back into Owens Corning.
  - As an organization, we will continue to report to DOE Better Plants and drive energy reductions in our plants.

### Energy Performance across the Organization (EN3)

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.

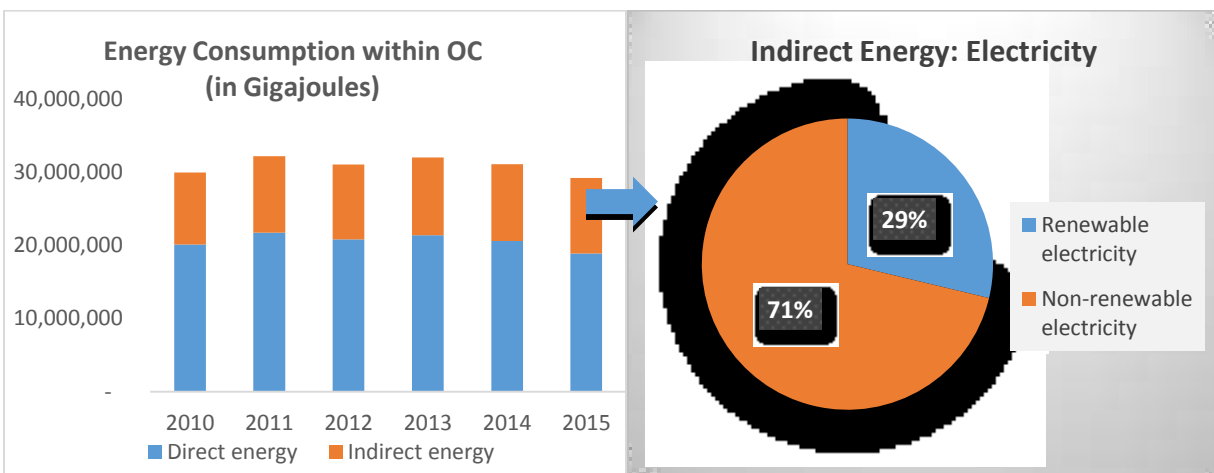


Figure 2: Energy Consumption within Owens Corning

### Our Direct Energy Consumption

Owens Corning has reduced direct energy consumption by 8% from 2014 to 2015, with the majority of the reduction resulting from natural gas.

We have focused relentlessly on reducing our direct energy consumption. 65% of our direct energy consumption in 2015 (see Figure 3) was associated with the use of non-renewable sources such as coal,

natural gas, and oil. For Owens Corning, 95% of our direct energy consumption is associated with natural gas consumption.

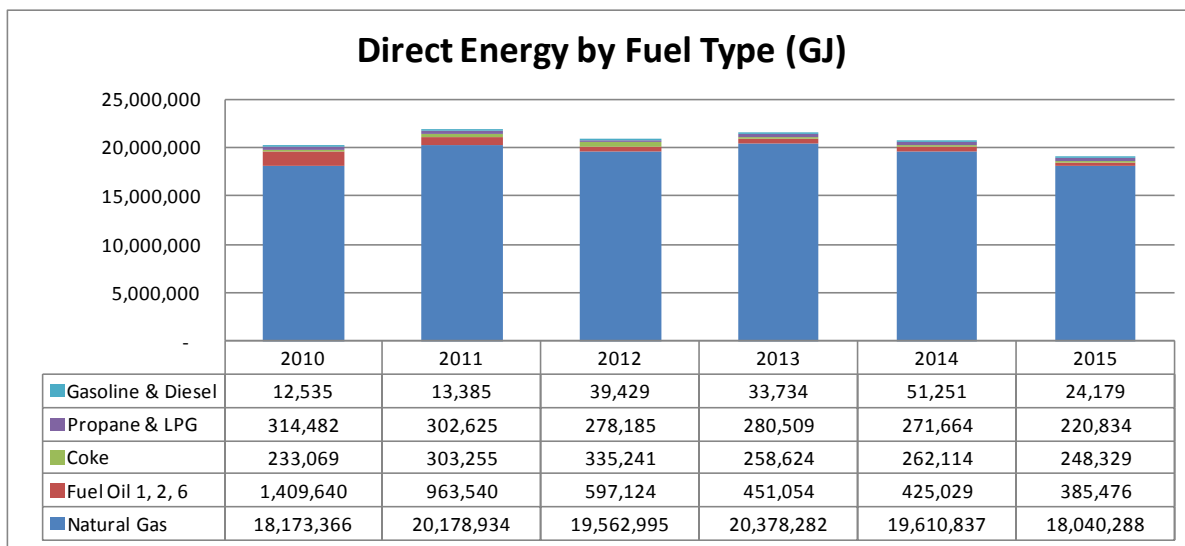
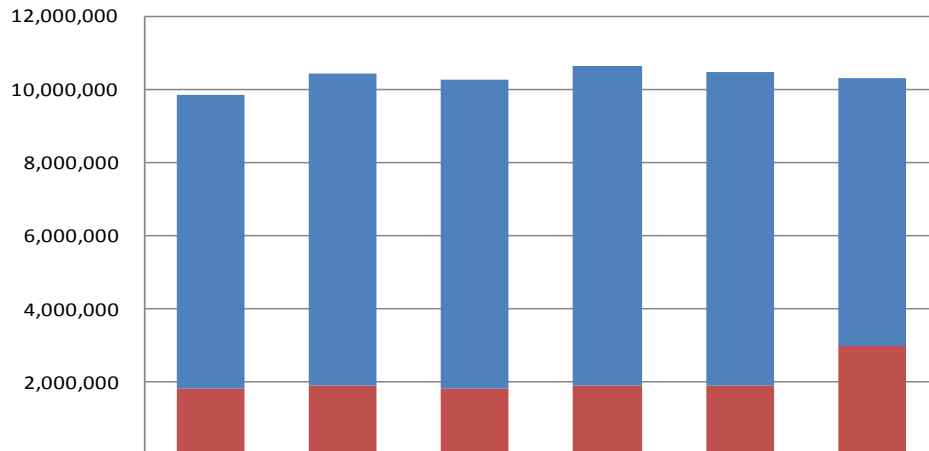


Figure 3: Direct energy consumed across operations in 2015

## Our Indirect Energy Consumption

At Owens Corning, renewable energy has been fundamental in enabling sustainable business operations. Even though a majority of our indirect energy demands are currently fulfilled by non-renewable sources, we have made progress in saving energy by installing renewable energy sources in several of our plants. We leveraged renewable sources such as wind, hydro, solar, and geothermal as the primary source of our electricity from the grid to meet 29% of our electricity needs in 2015 – compared to 18% in 2014. The increase in renewable power supplied by the grid to our facilities accounts for a significant increase in renewable energy as shown below. We are continuously exploring opportunities to grow and broaden the range of our renewable energy sources. Figure 4 depicts electricity consumption by source.

### Electricity Consumption By Source (GJ)



	2010	2011	2012	2013	2014	2015
■ Non-Renewable Sourced Electricity	8,057,606	8,545,298	8,451,582	8,758,527	8,575,192	7,351,412
■ Renewable Sourced Electricity	1,783,438	1,893,738	1,797,868	1,871,865	1,903,457	2,965,884

Figure 4: Electricity consumption by source



## Owens Corning Region-wise Energy Portfolio

		2010	2011	2012	2013	2014	2015
<b>Direct Energy</b>							
<b>Non- renewable (GJ)</b>	Asia Pacific	3,791,540	4,176,457	4,137,586	3,826,696	3,349,486	2,817,844
	Europe	3,863,051	3,932,472	3,184,469	3,308,307	3,123,934	3,031,280
	Latin America	1,366,580	1,448,368	1,652,947	2,030,745	1,861,719	1,760,400
	Canada	1,162,181	1,173,371	1,043,872	1,038,814	1,072,066	1,004,256
	United States	9,959,740	11,031,070	10,794,099	11,197,640	11,213,690	10,305,327
<b>Renewable (GJ)</b>		0	0	0	0	0	0
<b>Indirect energy: Electricity</b>							
<b>Non- renewable (GJ)</b>	Asia Pacific	1,129,669	1,315,023	1,321,853	1,310,749	1,193,567	1,151,594
	Europe	742,965	785,975	608,037	731,337	689,671	706,953
	Latin America	343,206	404,487	452,693	556,420	567,487	558,258
	Canada	338,403	353,900	313,701	327,202	333,179	341,154
	United States	5,503,363	5,685,913	5,755,299	5,832,819	5,791,287	4,593,453
<b>Renewable (GJ)</b>	Asia Pacific	152,430	185,167	188,408	186,796	157,752	147,701
	Europe	409,082	446,655	398,292	406,809	379,646	398,023
	Latin America	292,583	319,207	316,004	321,576	271,680	335,285
	Canada	552,130	577,416	511,828	533,856	543,607	556,620
	United States	377,213	365,293	383,336	422,828	550,772	1,528,256
<b>Overall Energy Usage</b>							
<b>Non- renewable (GJ)</b>		28,200,698	30,307,036	29,264,556	30,160,729	29,197,086	26,256,535
<b>Renewable (GJ)</b>		1,783,438	1,893,738	1,797,868	1,871,865	1,903,457	2,965,885
<b>Total Energy Usage (GJ)</b>		29,984,136	32,200,774	31,062,424	32,032,594	31,100,543	29,222,420

Table 1: Owens Corning energy portfolio by region

## Energy Savings Generated

Since 2006, we have implemented over 900 projects across the globe, which has reduced our MWH usage by 1,000,000 MWH.

In 2015, we implemented over 70 programs, generating energy savings for approximately 92,000 MWH per year. These projects include lighting retrofits, compressed air optimization, cooling tower upgrades, pump and process optimizations and biomass conversions.

A snapshot of energy savings achieved by each project is highlighted in Table 2.

Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Annual GJ Energy Savings	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficient lighting upgrades (indoor & outdoor)	2,579	9,148	209,198	595,418	1-3 years	6-10 years	A total of 12 lighting upgrade projects were implemented across the company, including upgrades in warehouses, production areas, etc.
Variable frequency drives on process fans and pumps.	5,717	22,360	854,146	721,407	<1 year	11-15 years	A total of 11 variable frequency drive projects were implemented on fans, pumps and other motors across Roofing & Asphalt, Insulation, and Composites.
Purchase of meters and leak detection equipment to identify leaks, monitor and improve upon system efficiency	322	1,156	28,890	76,445	1-3 years	11-15 years	Two projects were implemented; one metering and one leak detection
V-Notched Belt Conversion on Motors	458	1,714	35,954	49,058	1-3 years	11-15 years	Two belt projects were implemented on various motors.
Men's Locker Room Hot Water Energy Upgrade	1,665	6,019	17,400	37,000	1-3 years	11-15 years	Men's Locker Room Hot Water Energy Upgrade at Insulation Plant
Asphalt Tank Insulation	2,920	10,462	34,600	173,000	4-10 years	11-15 years	Asphalt Tank Insulation
HVAC System Upgrades and Replacement	213	4,219	55,237	155,025	1-3 years	11-15 years	Two HVAC projects were implemented in building materials plants
Compressed air compressor replacement/upgrade	1,198	6,545	145,400	529,788	4-10 years	11-15 years	One compressor replacement was implemented at an insulation plant
Upgrade compressed air compressors with new controls	1,644	5,890	90,000	190,000	1-3 years	11-15 years	Project was implemented at Composites plant
Chiller Replacement	573	2,358	60,223	257,600	1-3 years	11-15 years	Project was implemented at Composites plant
Replace motors with new high efficiency	79	410	18,281	45,000	1-3 years	11-15 years	Project was implemented at Composites plant
Furnace side wall insulating	367	2,786	75,420	40,680	<1 year	11-15 years	Project is both a natural gas and electric savings implemented in Composites plant.

Table 2: Energy savings achieved

## Energy Intensity Reduction (EN5)

We continue to expand efforts to reduce our energy intensity across our operations. In 2015, our weighted average energy intensity was 2.92 MWH, a reduction of over 5% from 2014. We have actively taken conservation measures to significantly reduce energy consumption and improve plant efficiency as represented in our energy efficiency programs.

Normalized Consumed Energy Usage 2010-2015	2010	2011	2012	2013	2014	2015
Weighted Intensity Percentage	100	101	95	91	87	83
Weighted Intensity (MWH/MT of product produced)	3.54	3.57	3.35	3.22	3.09	2.92
Intensity is normalized based on MT of product produced						

Table 3: Energy intensity between 2010 and 2015\*

\*Calculated using all forms of energy consumed internally by Owens Corning for its operations. Types of energy include fossil fuels (diesel, natural gas, propane, and others) as well as electricity.

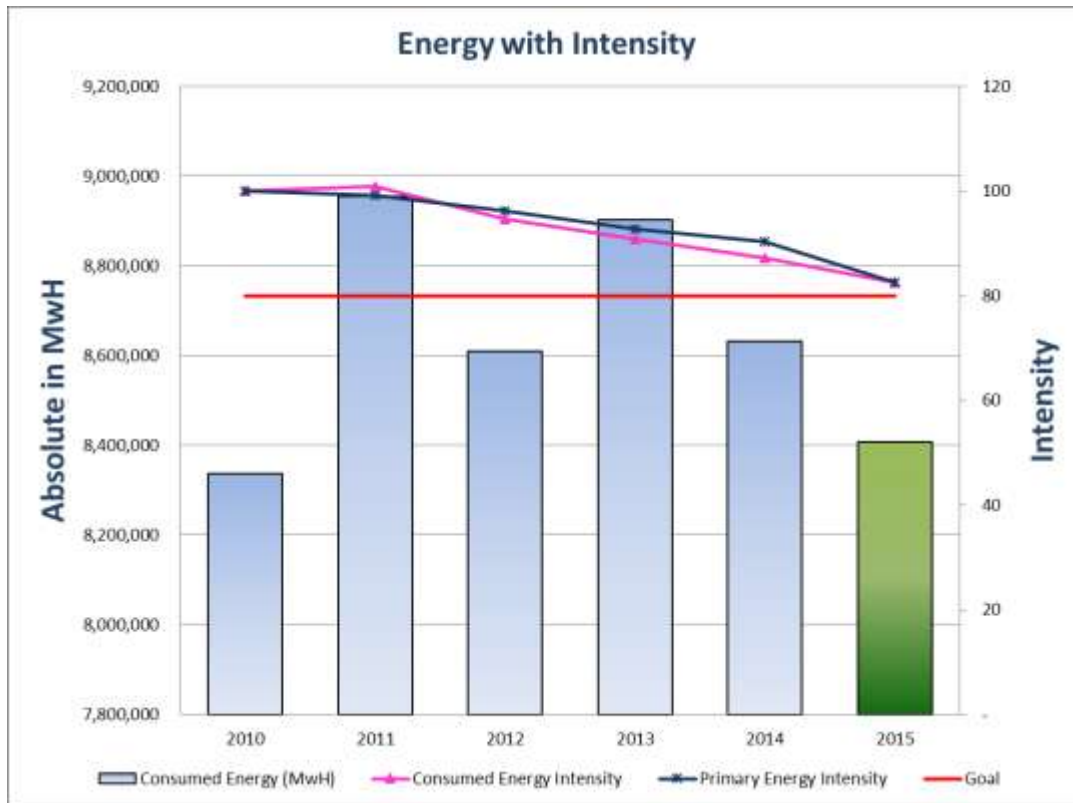


Figure 5: Results for our Energy intensity between 2010 and 2015 against our 20% Intensity Goal by 2020

## Energy Consumption across the Value Chain (EN4)

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 Form 10-K Annual Report were used as indicators of and inputs for economic activity in each of the three respective sectors. The reported value is only reflective of Scope 3 upstream for each of the 3 businesses. The total energy and that of each business has been broken down by fuel source.

Sources:

<http://investor.owenscorning.com/SEC-filings/2016/default.aspx?FormGroups=14>

<http://www.eiolca.net/cgi-bin/dft/use.pl>

<https://www.census.gov/eos/www/naics/>

[http://stats.areppim.com/calc/calc\\_usdlrxdeflator.php](http://stats.areppim.com/calc/calc_usdlrxdeflator.php)

	Total (Scope 3)	Insulation	Roofing	Composites
Coal (TJ)	15,679	6,507	3,580	5,592
NatGas (TJ)	16,504	4,844	5,594	6,066
Petrol (TJ)	10,759	3,278	4,893	2,589
Bio/Waste (TJ)	3,359	1,197	1,199	962
NonFossElec (TJ)	5,038	1,455	1,432	2,151
<b>Total Energy (TJ)</b>	<b>51,340</b>	<b>17,281</b>	<b>16,697</b>	<b>17,361</b>

Table 4: Total energy consumed by each business operation

## Energy Conservation: Projects and Initiatives Undertaken (EN6, EN7)

At Owens Corning, we make energy conservation an integral part of our operations by deploying energy saving programs across our enterprise (see Figure 6) including low cost/no cost projects, capital projects, renewable energy, new technologies and innovation, asset optimization, and infrastructure improvements. According to the eGRID and IPCC factors used to calculate greenhouse gas (GHG) emissions, we have been able to achieve energy savings of over 34,500 MT of GHG emissions as a result of implementing energy efficiency programs in 2015.

As part of our energy savings efforts, we continue to evaluate the possibility of expanding the projects across our facilities globally. With a robust pipeline of current and future projects focused on energy conservation, we plan to create a continuous improvement cycle for superior energy conservation.

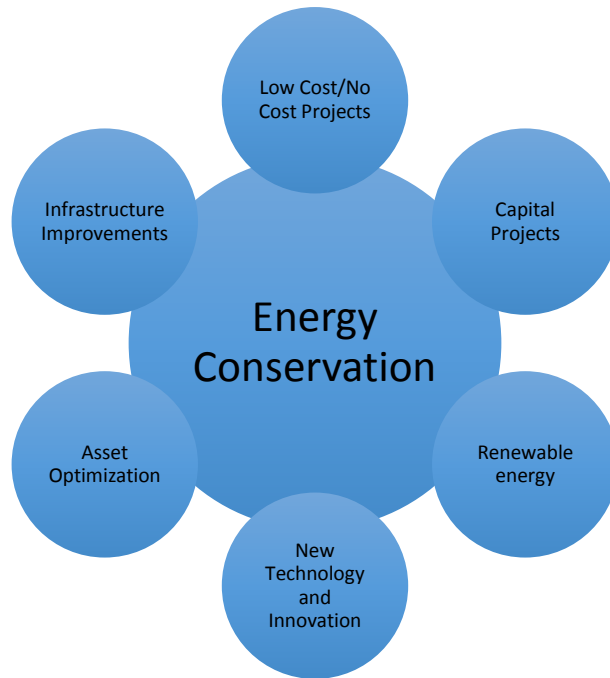


Figure 6: Energy conservation programs deployed across the enterprise

Some of the key energy efficiency projects implemented across our units in 2015 include:

- **Indoor and Outdoor Energy Efficient Lighting Upgrades:** Implemented 12 lighting upgrade projects across the organization including warehouses and production areas.
- **Flexible Frequency Drives for Process Fans and Pumps:** Deployed 11 variable frequency drive projects on fans, pumps, and other motors across our three businesses.
- **Meters and Leak Detection Equipment:** Implemented two projects, one for metering and one for leak detection, to identify leaks as well as improve monitoring and system efficiency.
- **V-Notched Belt Conversion on Motors:** Implemented two belt projects on various motors.
- **Men's locker room hot water energy upgrade:** Implemented a hot water energy upgrade at an Insulation location.
- **Tank Insulation:** Enabled asphalt tank insulation.
- **HVAC System Upgrades and Replacement:** Employed two HVAC projects in different businesses.
- **Compressed Air Compressor Replacement/Upgrade:** Replaced a compressor at an Insulation plant.
- **Air Compressors with New Controls:** Upgraded compressed air compressors with new controls.
- **Chiller Replacement and High Efficiency Motors:** Replaced chiller and deployed high efficiency motor at a Composites plant.
- **Furnace with Sidewall Insulation:** Implemented a natural gas and electric savings furnace at a Composites plant.

## 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 ranging energy saving products include:

- **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 4-5 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 use 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. Life cycle assessment takes into consideration the raw materials extraction, manufacturing, installation, maintenance, and end of life of composite parts vs. other materials.

## **Case Study: Enabling Energy Savings in Residential Building of North America**

### **The Challenge: Striving for Energy Efficient Homes**

The long term challenge is to achieve net-zero energy for all new buildings by 2030. This goal will be realized through improved design, construction and operation of the buildings. Design of the thermal envelope is a specific challenge that addresses the first costs, operating costs, and tradeoff options. Upgraded insulation has the distinct advantage of reducing energy consumption, operating costs, and GHG, improving thermal performance and enhancing thermal comfort for the entire life of the structure. However, it is challenging due to decreasing heating energy prices, higher efficiency HVAC equipment, tradeoffs that have shorter economic lives, and renewable energy options. Collectively, the optimum performance is achieved by properly accounting for the energy and economic balance. Specific insulation solutions then vary by location due to the climate conditions, type of heating system, and local economics.

### **Owens Corning: Making it Happen**

GHG emissions and energy savings in North American homes were estimated by measuring complete weight of fiberglass insulation and XPS foam insulation products. We used R11, R13, and R38 fiberglass and R5 rigid foam board to insulate a two-story home in St. Louis, Missouri, which is representative of an average home in terms of heating and cooling days for the building zone requirements of North America. It was assumed that the life of a home would be 60 years, a number being used by experts in proposed international sustainable building standard setting activities. We determined the avoided emissions by comparing the insulated to a non-insulated 2,400 square feet home.

### **Measurable Results: Reducing GHG Emissions**

Our insulation solutions enable significant natural gas and electricity savings for North American residential buildings. The savings were measured by using U.S. DOE approved building energy consumption and cost software, REM/Design™. Our building insulation products sold in North America in 2015 were estimated to reduce the GHG emissions for home owners by approximately 9.5 million metric tons CO<sub>2</sub>-e a year and 573 million metric tons over the building life time. The equivalent energy savings for the 2015 North American sales was over 177 million gigajoules. To put that in perspective, the U.S. EIA says that in 2014 the average annual electricity consumption for a U.S. residential utility customer was 10,932 kilowatt hours (kWh). That means that the energy savings from our case study is equivalent to the total annual electricity use of an American city of nearly 4.5 million people!

### **The Road Ahead**

At Owens Corning, innovation is the hallmark of all our products. We continue to deliver energy efficient products that enhance building sustainability. Our clients also leverage our roofing products that have been ENERGY STAR® rated.

## Enabling Green Buildings

Consumers rely on us to deliver measurable energy conservation through LEED® Certification. Over the past 65 years, we have pioneered innovative products and building solutions, and we are a founding member of the Green Building Council in the U.S. and in India. We are also active members of Green Building Councils in Brazil and Canada. We understand that selecting the right products is essential to achieving LEED® Certification. Owens Corning provides LEED reference materials, helping project teams specify the best Owens Corning products for LEED certification. Some of these products are referenced in the [Owens Corning LEED® v4 Credits Guide for Commercial, Institutional and High-Rise Residential Buildings](#).

### **Case Study: Reducing Energy Consumption of ‘The New American Home’**

#### **The Challenge: Maximizing Energy Efficiency of Builder’s Showcase Home**

Element Design Build was looking to enhance sustainability and energy efficiency of its 5,200-square-foot contemporary "Desert Elegance" showplace, The New American Home (TNAH). The home offered stunning views of the Las Vegas, Nevada, strip and the client wanted it to deliver complete home comfort.

#### **Owens Corning: Making It Happen**

We worked closely with the builder to evaluate risks and benefits associated with using different assemblies. As the platinum-level sponsor, we deployed revolutionary building science solutions throughout the building process of TNAH. Our team, led by Dr. Achilles Karagiozis, created a customized climate-specific comfort strategy by normalizing variables, including climate, material properties, construction and boundary conditions.

#### **Measurable Results: Delivering All-around Home Comfort**

By leveraging advanced predictive hydrothermal modeling software, we deployed superior insulation products in the home's walls, roof, and foundation to enable effective air sealing, moisture management, and acoustic solutions. This helped the client cut energy costs significantly. Through applying our cutting-edge building science, we helped to maximize the home's energy efficiency and to deliver whole home comfort around the clock.

<https://w.owenscorning.com/building-genius/the-new-american-home>



## Harnessing Renewable Energy

Investing in renewable energy is an important focus area for Owens Corning. We continually explore various renewable energy options available through our utility providers.

- Owens Corning's 2.7-megawatt solar generation project delivers 6% of the electricity required for operations at our site in Delmar, New York.
- After several years in design and development, we installed a solar array at our corporate world headquarters, delivering 2.4MW of power and meeting 30% of the buildings energy needs. This solar installation offsets the GHG emitted by our Toledo workforce during their commute. The array comprises a solar canopy of nearly 8,000 panels that cover about 1,000 parking spaces.
- At the time of commissioning the solar array, we held a learning forum to share best practices and approaches for using renewable energy and achieving industrial scale energy efficiency. 125 external and internal stakeholders, including suppliers, community representatives, nongovernmental organizations, and students from University of Toledo attended the forum.
- Since 2008, Owens Corning has sourced 100% renewable electricity for our L'Ardoise, France, site through Compagnie Nationale du Rhone's (CNR) Caderousse hydroelectric project that harnesses energy from Rhone river. In 2015, this installation provided 70.385 MWH of renewable sourced electricity.

## Pioneering Net-Zero Homes

Through the NecoENERGY Innovation Initiative (ecoEII), a Canadian government program, Owens Corning Canada provided the building science expertise and products for the construction of 25 net-zero energy homes (NZE) in four Canadian provinces. These homes enhance energy efficiency through their superior design. We leverage our building science capabilities to meet the energy needs of NZE homes, resulting in lower energy consumption. Aligned with our ecoEII goals of implementing long-term solutions to mitigate air pollutants and GHG emissions, this project has been funded by Local Energy Efficiency Partnerships/ Technology Adoption Pilot (LEEP/TAP) project to exhibit the next housing platform in communities across the country.

This project is the largest NZE community demonstration in Canada to date. With technical design, planning and training processes, the NZE homes were built in five communities. New EnerGuide Rating System was used to measure energy consumption in these homes and in many cases the new R-2000 requirements will be implemented to achieve net zero. We are working with five homebuilders across the country including 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).

## Implementing and Monitoring Sustainability Initiatives

Our management system and existing practices require us to periodically review and report our performance, goals, and targets. The review ensures that all necessary systems are in place for tracking and monitoring the performance of each materiality aspect. Based on the performance and progress, the goals and targets are redefined. We also disclose our environmental performance on external platforms such as DJSI and CDP, and assess our position as compared to other market players. The public disclosure enables all stakeholders to comment or provide feedback for further review and action.

All our facilities have designated energy leaders who engage in energy management projects/activities, identifying opportunities, developing and implementing energy projects, etc. Information on the progress made against pre-determined goals, best practices implemented, and new, innovative technologies are shared between business units. The identified project/opportunity is then prioritized for implementation.

Our sustainability organization is headed by a Chief Sustainability Officer (CSO), who is also accountable for the Company's compliance with environmental, safety, health, and sustainability regulations. As sustainability is one of Owens Corning's four operational stands, our employees are accountable for looking for ways to reduce our environmental footprint, taking action to eliminate waste, and sharing ideas on how to achieve our sustainability goals.

Owens Corning kicked off the Energy Mission Possible Program more than 15 years ago and strengthened our commitment to energy management and continuous improvement in 2006 by creating two full time energy program managers – one for Composite Solutions and one for the combined building materials businesses: Roofing and Insulation. Owens Corning has kept a dedicated capital funding pool specifically for energy projects since 2006. A full time energy engineer was added to Composite Solutions in 2009 to conduct assessments, facilitate Kaizens, develop energy projects, and provide technical support to the plants. Most plants with medium and high energy usage have an energy team that meets monthly and is led by a plant-based Energy Leader.

Owens Corning has four AEE Certified Energy Management (CEM) professionals working inside the company, including:

- Energy Program Manager for Composite Solutions
- Energy Engineer for Composite Solutions
- Energy Leader at the Guelph, Ontario, Canada Composites plant
- Energy Leader at the Kansas City, Missouri, U.S., Insulation plant

Owens Corning issues a monthly energy intensity report for all plants with significant energy usage. At the plant level, energy intensity is measured by the megawatt hours required to produce a unit of product. Units of production vary depending on the type of plant but some examples are tons of fiberglass reinforcements, thousand square meters of fiberglass mat, pounds of insulation, and squares of roofing shingles.

The energy managers for the business units review their respective reports and follow up with any plants where there is a decline in performance or an anomaly. It is equally important to understand which Plants are improving and why. The reports use the Plan/Do/Check/Act cycle format to highlight the five plants with the largest performance discrepancies each month.

Each year, a short-term energy intensity goal for the following year is set for each plant based on their production forecast. A monthly energy intensity report is generated that show how each plant is tracking toward that goal and how the plants are performing against other plants that make similar products.

## **Create Action Plan**

Owens Corning's Energy Action Plan is built around the six focus areas listed below:

### **Controlling Energy Costs**

The Global Sourcing team has primary responsibility for procurement of energy and cost control. A large multinational energy procurement consulting firm is engaged to assist in analyzing utility bills, identifying energy suppliers, and analyzing tariffs. The plants support this effort with local utility relationships and opportunity identification. The energy program manager and engineer assist with technical evaluations and best practice sharing.

### **Energy Intensity Improvement Projects**

Owens Corning has had a dedicated energy capital fund in place since 2006. The plant Energy Teams, energy program manager, energy engineer, and outside vendors/consultants work to identify energy related capital projects. The energy program manager selects the projects that receive funding and manages the portfolio at a high level through all phases of the project life cycle. SAP, the Company's enterprise system, is used to track progress on all active projects monthly. Projects that do not meet milestones or those that are no longer viable are replaced throughout the fiscal year. The plant energy leaders or their team members are responsible to execute and manage individual projects.

### **Low/No Cost Improvements**

Many actions can be taken to improve energy efficiency for little or no cost. Sometimes these changes are as simple as turning off equipment that is not in use, fixing compressed air or natural gas leaks, or changing a setpoint. Owens Corning has a strong focus on low/no cost (LCNC) improvement and the program to go after them has six components, including a quarterly LCNC implementations report to senior management, energy Kaizens, energy assessments, local plant Energy Team actions, best practice sharing, and the Owens Corning Energy Team Challenge contest.

### **Assessments, Kaizens, and Best Practice Sharing**

Assessments are conducted with internal and external resources. On average, Owens Corning has held 10 energy Kaizens per year since 2009. Owens Corning has adopted internal standard work practices regarding Kaizens. Best practices are shared via a monthly energy call with the plants and on the business energy program collaboration sites.

### **Capacity Management**

Production equipment, including furnaces and ovens, are managed so that the equipment is run at the best efficiency point when possible. Generally speaking, the more heavily loaded our equipment is the more energy efficient it runs.

### **Energy and Equipment Reliability**

Production efficiency is negatively impacted when energy interruptions occur or equipment breaks down. Owens Corning created a separate capital fund in 2013 to improve energy and equipment reliability, which is managed by the Composites energy program manager. When production equipment stays running continuously it produces less scrap product, which improves energy intensity because our metric is based on finished goods output. The Company has completed 138 energy and equipment reliability projects in Composite Solutions since 2013. These projects have been a key contributor to increasing production efficiency in recent years and improving energy intensity of the Company.

## **Implement Action Plan**

Owens Corning is a matrix organization so a variety of people and groups work together to execute the action plan explained above. The list below summarizes areas of primary responsibility but there is some overlap and sharing between the functions:

- Sourcing: Energy procurement, best price, pricing risk management
- Energy Program Managers: Oversight and Management of energy and reliability capital, best practice sharing, low/no cost, internal reporting, driving results, recognition
- Plant Energy Leaders and Teams: Implementation of projects and low/no cost efforts, community outreach, execution
- Sustainability Team: External reporting and communications, companywide internal Communications
- Senior and Plant Management: support, recognition, encouragement

## **Evaluate Progress**

Monthly energy intensity reports for all plants are created and shared with plant energy teams, site energy leaders, plant leaders, and senior management. An energy intensity performance graph is generated for each plant every month and posted in the plant's Obeya room. Our Operations Sustainability group creates a yearly sustainability report with detailed energy reporting and other aspects reporting for all plants.

Energy metric performance is reviewed at each monthly global energy team call. Senior management receives monthly updates on energy metric performance.

## **Recognize Achievements**

Owens Corning does a great job recognizing achievements related to energy efficiency. We have an annual contest for the plant energy teams that has been running for eight years. Each year, the top three scoring teams are recognized by management and a cash prize is awarded to the entire team. The contest is very comprehensive and takes into account all facets of each plant's energy program, including energy intensity metric improvement, energy-related capital project identification, energy-related low/no cost savings implementations, participation in eight key energy program activities, and having a sound equipment and operations reliability program to minimize waste and impact to energy intensity.

Owens Corning has a special yearly innovation award for sustainability. The 2015 winner was a Biomass Project that was installed in one of our plants in India.

Management is also recognized when achievements are made, because Owens Corning sustainability goals are tied to incentive compensation.

## Emissions

Owens Corning seeks to design, develop and manufacture products that help reduce the impact of climate change. We will continue making efforts to ensure a sustainable environment for future generations by conducting life cycle assessments (LCA) and reducing our environmental footprint while enhancing our handprint.

### Tackling Greenhouse Gas Emissions Head-on

Owens Corning is committed to safeguarding, sustaining, and improving the environment for the benefit of current and future generations.

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.

Owens Corning is well-positioned to help address this issue through the increased energy efficiency gained from the use of the products we produce and the reductions in GHG emissions that occur when our products are used. This is an opportunity for Owens Corning to make a measurable difference in global sustainability.

We recognize climate change will have a significant impact on the world's water resources. We continue to monitor water stressed areas using the WBCSD Global Water tool.

Our efforts to positively impact the environment don't stop here. We are well-positioned to help address global warming issues through our innovative solutions to improve energy efficiency in buildings, transportations systems, and the production of renewable power such as wind. This provides an opportunity for Owens Corning to make a measurable difference to ensuring global sustainability.

### **Case Study: Making Great Strides in Wind Energy Production**

#### **The Challenge: Reducing GHG emissions from energy**

Given the size of Company's energy demand, Owens Corning does not have enough real estate to make the huge emissions impact it needs through on-site renewables and efficiency alone. This shifted the focus of company to look at off-site wind energy which has become economically attractive for the scale Owens Corning needed.

#### **Owens Corning: Making it Happen**

Owens Corning took advantage of extremely competitive long-term wind energy pricing and facilitating the transition to a sustainable and clean energy economy by signing a power purchase agreement to procure 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. The length of contract is longer than traditional 3- to 5-year power supply contracts. The deal was structured as "contract for differences" wherein Owens Corning's PPA's support development of more wind power capacity added to the grid, and the direct return on this investment is the price paid for electricity on the wholesale power market. Only two years after its first renewable energy project (a 2.7 MW solar array at a manufacturing plant in Delmar, New York), Owens Corning has agreed to purchase enough renewable energy to power 65,000 U.S. homes per year. The key to gaining support within the company for such a contract was to start with smaller renewable investments.

#### **The Road Ahead**

As of the end of 2015, our wind power purchase was one of the largest purchases made by any industrial company in the world. It will help us support the wind power industry, a big consumer of our high performance glass fiber reinforcements for wind turbine blades.

## **Strategic Objective: By 2020, Minimize GHG Intensity by 50%**

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

In line with our global stakeholder expectations, we plan to reduce primary energy usage, GHG, fine particulate matter, and toxic air emissions, as well as minimize waste-to-landfill and water discharge.

We achieved 34% reduction in our first 10-year goal cycle corresponding to the period 2002 through 2012.

While our original 2020 goal was to reduce GHG intensity by 20%, we exceeded the target well in advance – hitting a 34% reduction by 2014 – as compared to our 2010 baseline. As a result, in October 2015, we increased the 2020 GHG intensity reduction goal from 20% to 50%.

Relative Targets for Scope 1 and Scope 2 Emissions	
Baseline year	2010
Target year	2020
% reduction in GHG intensity	50%

Table1: Relative targets for Scope 1 and Scope 2 emissions

## 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 against our 2020 goals. Our roadmap for emission reductions are based on 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 renewable energy additionality 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.

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 our stakeholders.

Owens Corning tracks environmental sustainability data at a plant level through utilizing Schneider Electric Resource Advisor. The data is normalized on a unit of production basis to evaluate variations and potential areas of risk. If risks are identified, mitigation plans are developed. The plant-level environmental data is then aggregated at a business unit and corporate level. Each plant, business unit, and corporate organizations is provided footprint files for comparisons and the ability to track against their goals.

The performance against our environmental sustainability goals are measured 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.

## Emission Performance across the Organization (G4-EN15, EN16)

Owens Corning combines the emissions from all of its operations and uses World Resource Institute (WRI) Corporate Accounting and Reporting Standard for defining and accounting its baseline structure. In 2015, more than 100 facilities were included in the scope and boundary of our reporting.

We review our structural changes on an annual basis based on the guidelines for baseline adjustments published by WRI, including mergers, acquisitions and divestments. According to the stated protocol, the data of mergers or acquisitions that are larger than 50% is reviewed for accuracy and integrity before it is integrated into the current year reporting inventory. This process of re-baselining is completed for both the numerator (aspect) and denominator (sales or production). We take this approach to ensure a meaningful and consistent comparison of emissions over time.

A third party assurance provider verifies and audits our approach for annual baseline adjustment for minimum threshold of new facility purchase. This level of granularity ensures 99.9% accuracy in our emission data for energy and GHG, as required by our current verification statement. Owens Corning had no baseline adjustments resulting from acquisitions or divestitures during the 2015 sustainability reporting cycle.

Total Direct and Indirect Greenhouse Gas Emissions (Metric tons)						
	2010	2011	2012	2013	2014	2015
<b>Direct (Scope 1)</b>	3,154,873	2,901,416	2,711,232	2,606,534	2,535,719	2,340,849
<b>Indirect (Scope 2)</b>	1,478,370	1,534,959	1,459,957	1,503,081	1,480,068	1,341,609
<b>Total</b>	4,633,243	4,436,375	4,171,189	4,109,615	4,015,787	3,682,458

Table 2: Total Direct and Indirect GHG Emissions (metric tons)

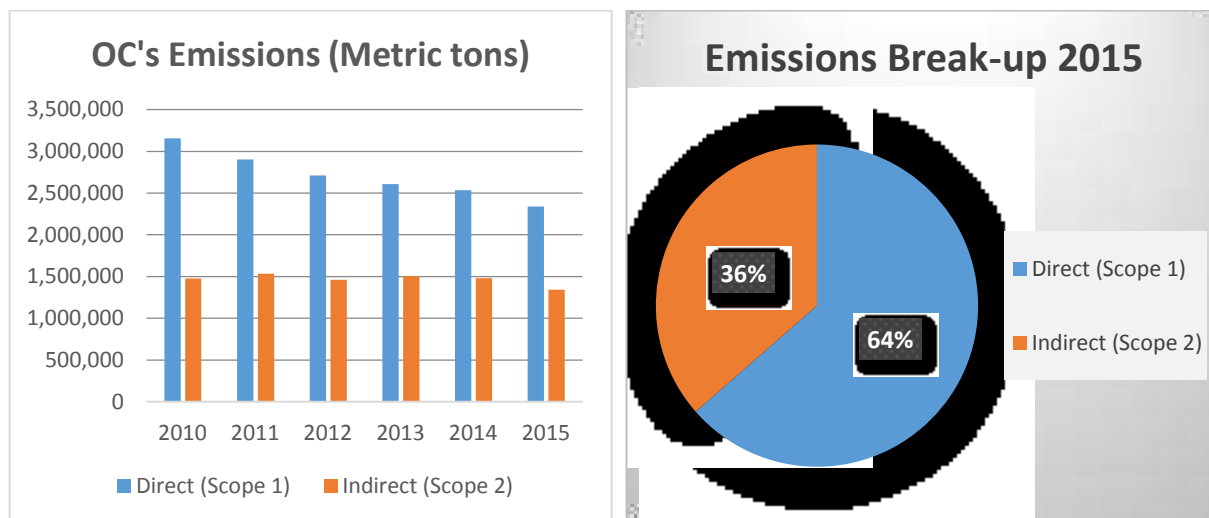


Figure 1: Owens Corning Emissions (metrics tons)



## Scope 1 Emissions

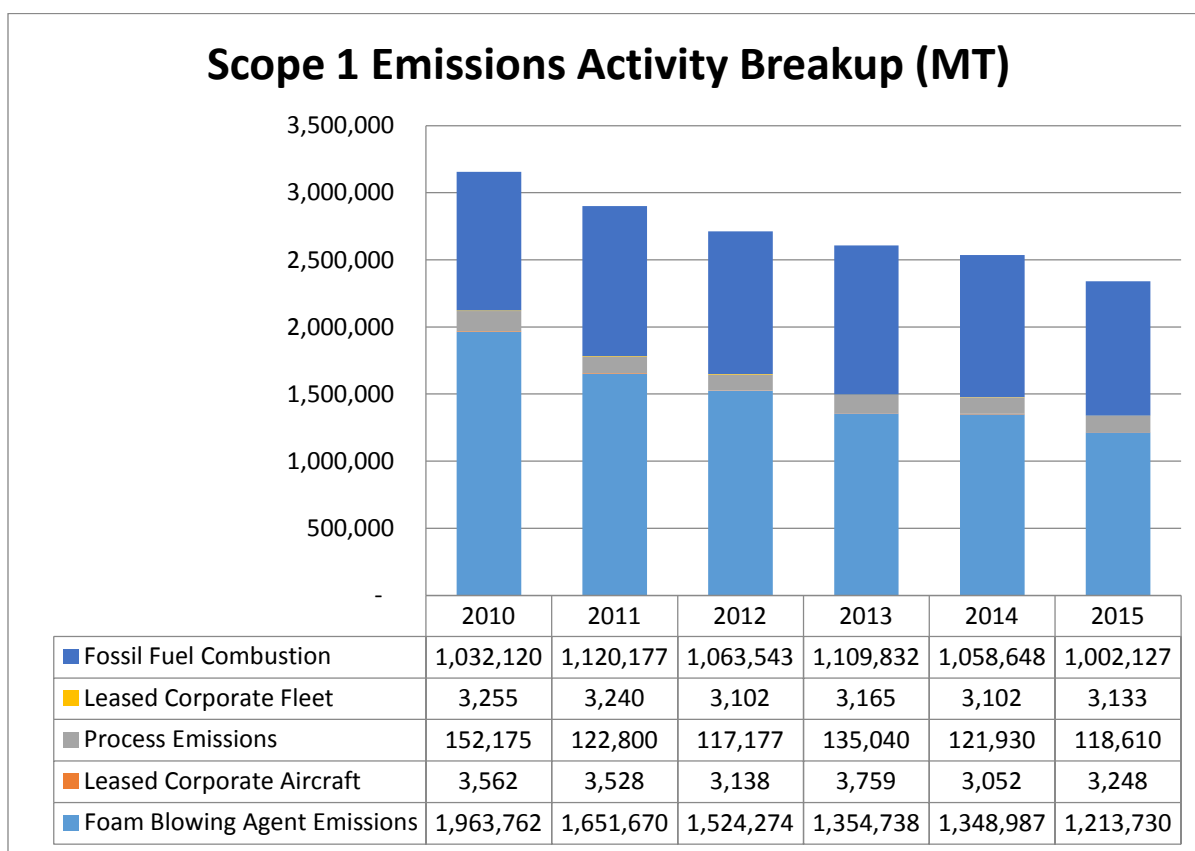


Figure 2: Scope 1 Emissions Activity Breakup

The majority of our Scope 1 emissions are attributable to 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 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 2015, we used the latest eGRID factors to measure emissions from electricity for US locations and the latest IPCC/IEA factors for international locations.

We have also updated our prior year emissions based on the latest approach listed in WRI and WBCSD 'GHG Protocol Corporate Accounting and Reporting Standard' for segregation of market-based and location-based emissions.

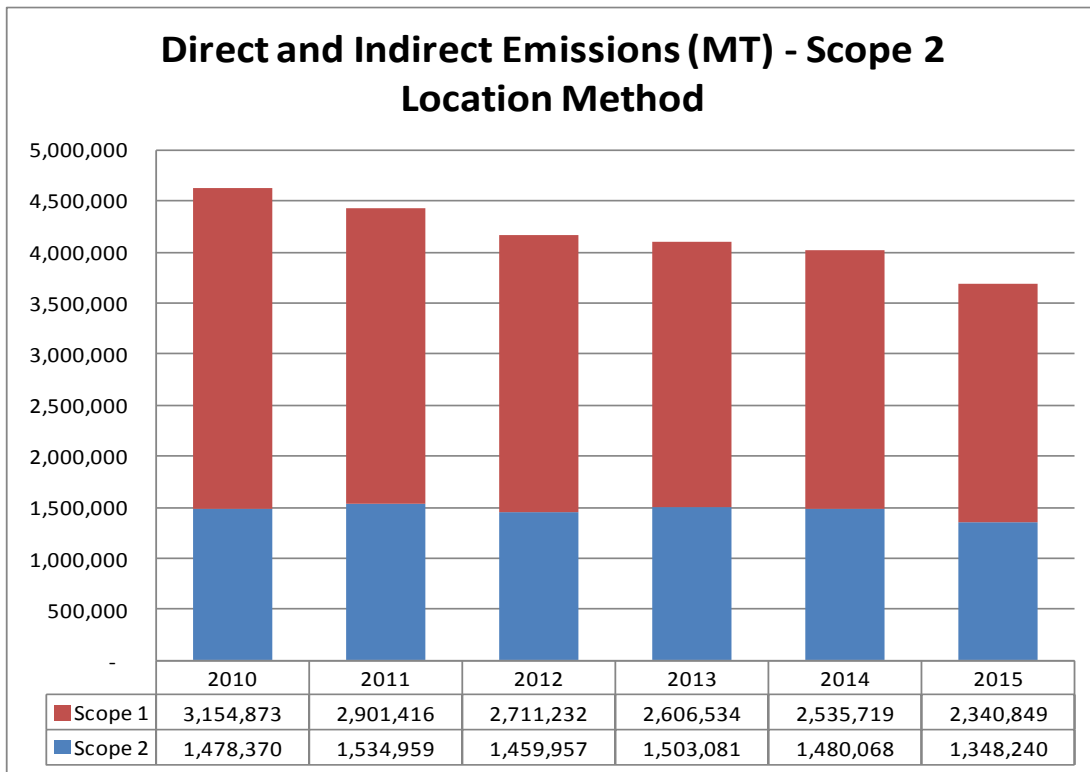


Figure 3: Direct and Indirect Emissions – Scope 2 Location Method

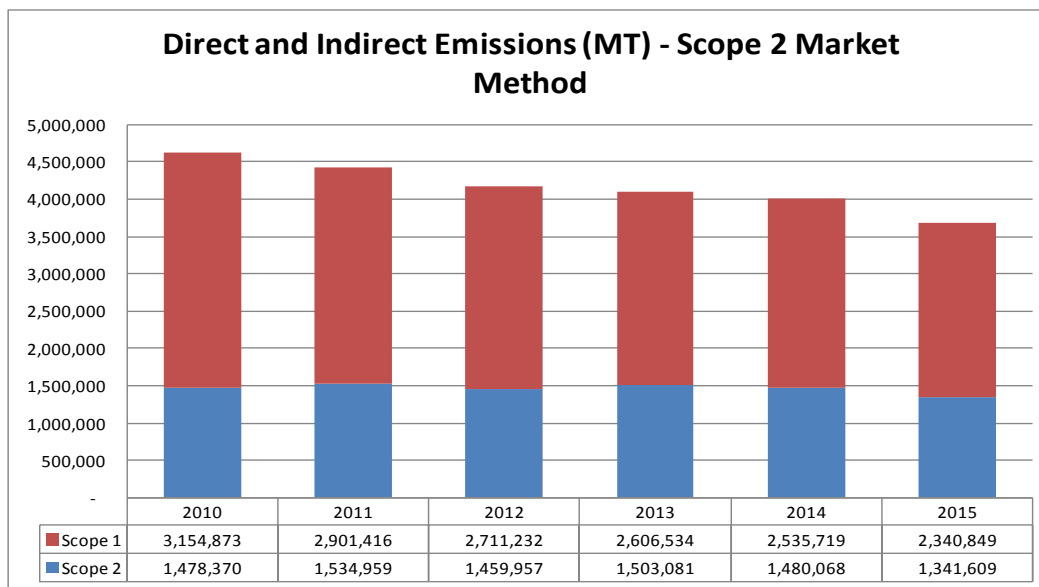


Figure 4: Direct and Indirect Emissions – Scope 2 Market Method

The Verification Statement affirms that SCS Global Services conducted verification activities in compliance with ISO 14064-3: Specification with guidance for the validation and verification of GHG assertions. This statement also attests that SCS Global Services can provide reasonable assurance that Owens Corning's reported Scope 1 and Scope 2 GHG emissions from January 1, 2015 through December 31, 2015, meet the WRI/ WBCSD GHG Protocol Corporate Accounting and Reporting Standard (GHG Protocol Corporate Standard), and the Climate Data requirements of the Carbon Disclosure Project. Furthermore, SCS Global Services can provide limited assurance, based on the procedures performed and the 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 GHG emissions from January 1, 2015 to December 31, 2015 were materially misstated.

## Other Indirect Emissions (G4-EN17)

### Scope 3 Emissions

Summarized in the pie chart below are Owens Corning's estimated Scope 3 emissions for 2015 by category. Owens Corning accounts for both upstream and downstream emissions from our value chain. For more detailed information of our calculation methodologies for each scope 3 category, please see question CC14.1 in our CDP Investor report for 2015 on the Owens Corning sustainability website.

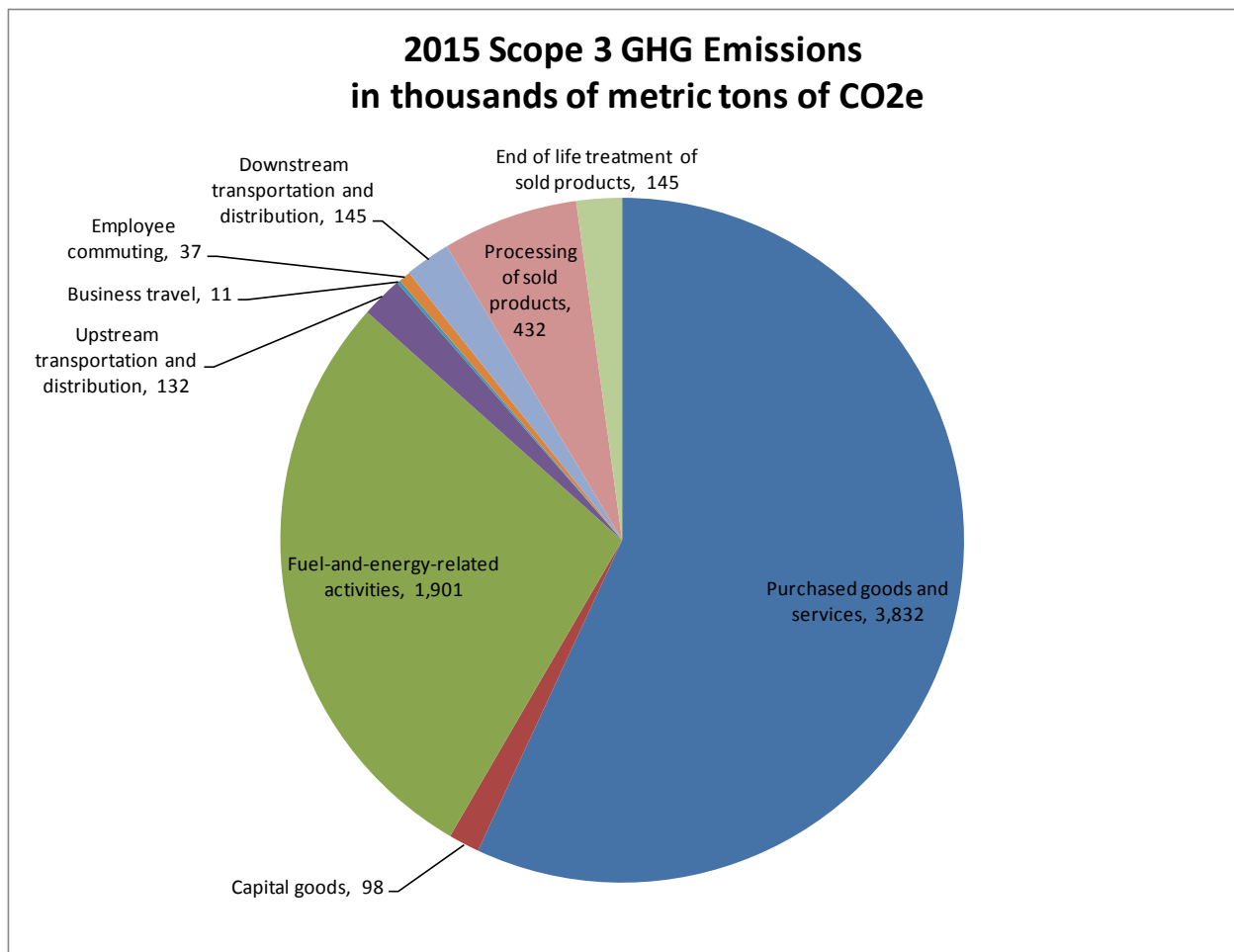


Figure 5: 2015 Scope 3 GHG Emissions

## **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 supplier's emissions. As an example, we are using this 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 percent 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 158 million miles transported in 2015, 30 million miles were made using alternative means (natural gas, intermodal, rail), resulting in an emissions avoidance of approximately 26,000 metric tons of CO<sub>2</sub>e.

In addition, Owens Corning has a portfolio of our product Life Cycle Analyses (LCAs) to assist in identifying opportunities for working with raw material suppliers in reducing GHG emissions.

### **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 percent 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. Insulation products produced in North America in 2015 reduced GHG emissions for home owners by approximately 9.5 million metric tons a year and 573 million tons over a 60-year building life. A typical pound of insulation saves 12 times as much energy in its first year in use as the energy used to produce it. That means the energy consumed during manufacturing is saved during the first 4-5 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.

### **Support Services**

In addition to the GHG emissions from upstream (suppliers) and downstream (customers), Owens Corning also considers the GHG emissions from our company's downstream services and support functions. Owens Corning's sales vehicle fleet management program takes into account the fuel efficiency of vehicles in the program to reduce fuel costs and emissions. Over the last few years, Owens Corning has increased efforts to reduce the amount of business travel. Employees are asked to examine the need for traveling and to see if alternative options can be implemented. We have adopted remote desk top sharing and have greatly increased the amount of video conferencing in lieu of business travel. Many plants now have video conference rooms available, and personnel at home offices increasingly take advantage of video conferencing technologies on their personal computers. Travelers also will bundle trips and visit multiple plants in the same area rather than making separate individual trips to reduce business travel costs and emissions. Employees are also instructed to take intermediate or compact cars on business trips to limit emissions.

## Greenhouse Gas Intensity (G4-EN18)

Owens Corning uses a weight average intensity calculation to track progress against our 2020 environmental sustainability goals. The goals encompass Scopes 1, 2, and 3 business travel. Our weighted average intensity improved 12% from 2014 and has improved by 41% compared to our 2010 baseline. Our total GHG Intensity in 2015 for all Scopes 1, 2, and 3 was 1.78 MT CO<sub>2</sub>e per MT of product produced.

Normalized GHG Emissions 2010-2015	2010	2011	2012	2013	2014	2015
Weighted Intensity Percentage	100	85	77	68	67	59
Weighted Intensity (MT/MT of product produced)	2.63	2.25	2.03	1.79	1.77	1.55
Intensity is normalized based on MT of product produced						

Table 3: Normalized GHG Emissions 2010-2015

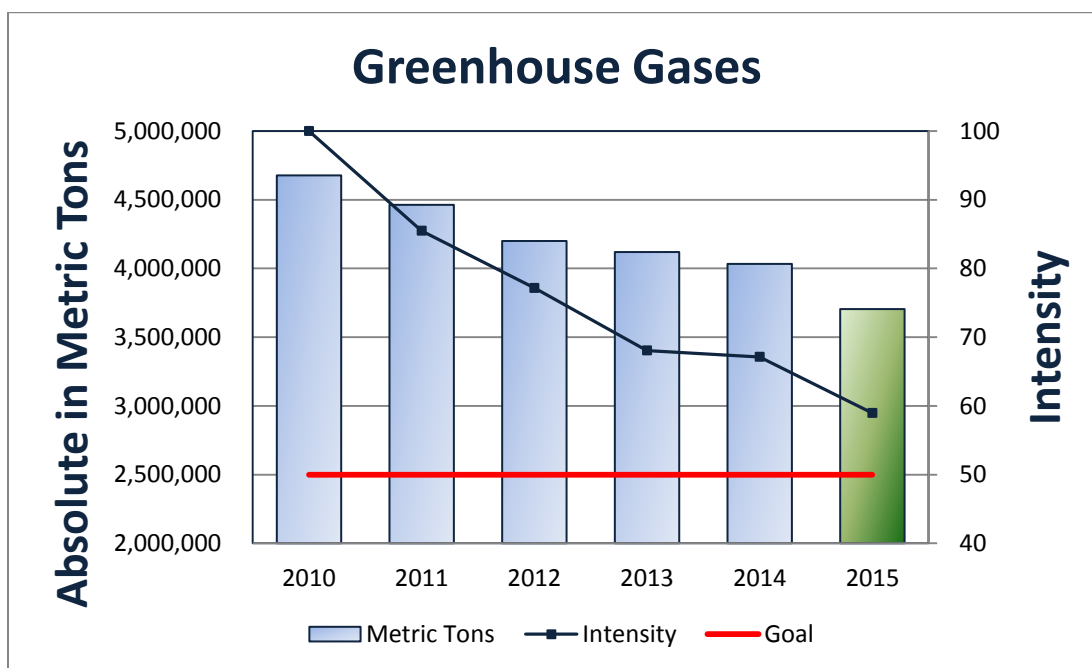


Figure 6: GHG 2010-2015

## Emission Reductions (EN19)

- We achieved 26% reduction in Scope 1 emissions from 2010 to 2015. This equates to an 8% absolute reduction since 2014.
- We achieved a 9% absolute reduction in Scope 2 emissions from 2010 to 2015 and a 9% absolute reduction since 2014.

We implemented a global strategy to reduce emissions of GHG across our operations. This strategy is represented in our GHG intensity goal of a 50% reduction from 2010 to 2020. As a company, we focus on reducing the 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 progress against our 2020 goal of 50% GHG intensity reduction.

In line with our 2020 goal, in 2013 Owens Corning installed a 2.7 MW ground-mounted solar array at an insulation manufacturing plant in Delmar, New York. Also, we recently completed the installation of a canopy of solar panels on the 11-acre parking lot at its Toledo, Ohio, corporate world headquarters.

We have also signed an agreement to procure 125 MW of wind energy in Texas, and an additional agreement for another 125 MW in Oklahoma – totaling 250 MW of renewable electricity from power purchase agreements.

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 2015 emission reduction projects, please see our response to question CC3.3b in Owens Corning’s 2015 CDP Investor report on our sustainability website.

### Ozone Depleting Substance (G4-EN20)

In 2015, there was substantial decrease in absolute ozone depleting emissions of 48% compared to 2010 baseline and 18% reduction from 2014.

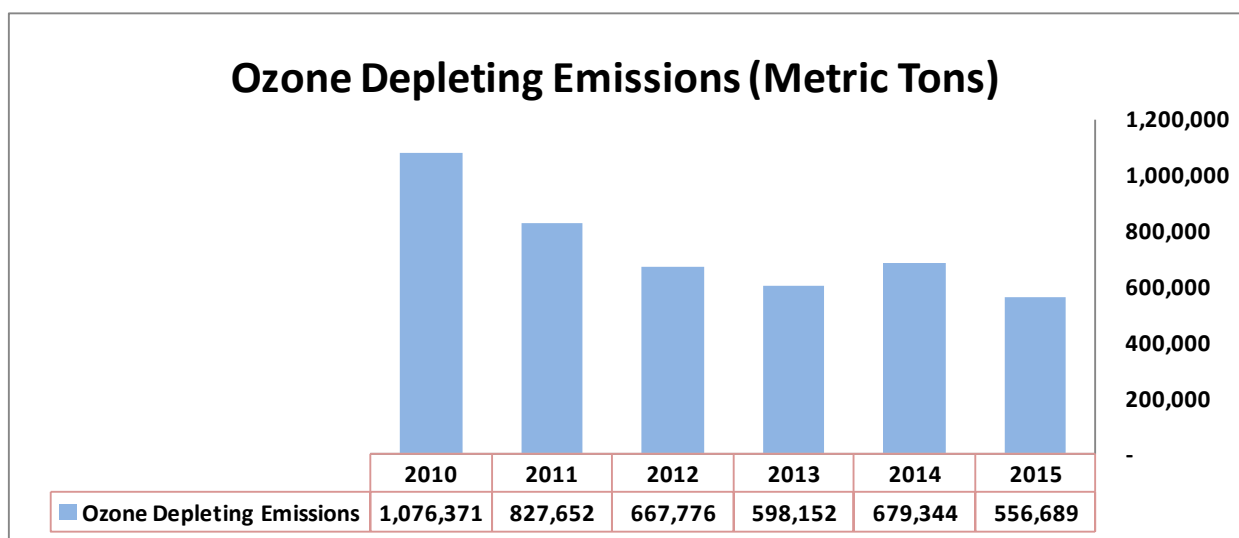


Figure 7: Ozone Depleting Emissions 2010-2015

Owens Corning uses the EPA eGRID factors for determining the GHG emissions from electric power for US locations and IPCC 2006 standards for all other locations. We use Final Rule (40 CFR 98) - Industrial Sector 2013 for fossil fuel emission factors. A detailed list of all emissions factors is shared in our response to question CC7.4 in the 2015 CDP Investor Report, located on our sustainability website.

## Air Emissions (G4-EN21)

Given our significant progress on air emissions, in 2015 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 55% absolute reduction in TAE and a 66% reduction in Toxic Air Intensity.

### NO<sub>x</sub> and SO<sub>x</sub> Emissions

As a part of its broader sustainability framework, we manage, track, and report against NO<sub>x</sub> and SO<sub>x</sub> air emissions. In 2015 we saw a 37% absolute reduction in NO<sub>x</sub> and 22% absolute reduction in SO<sub>x</sub> from our base year 2010.

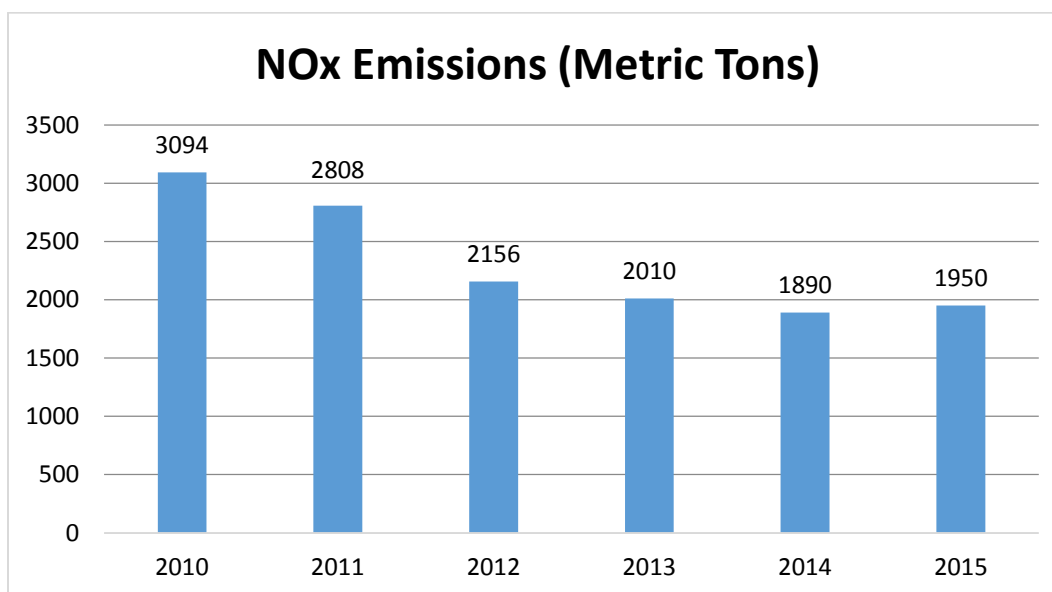


Figure 8: NO<sub>x</sub> Emissions 2010-2015

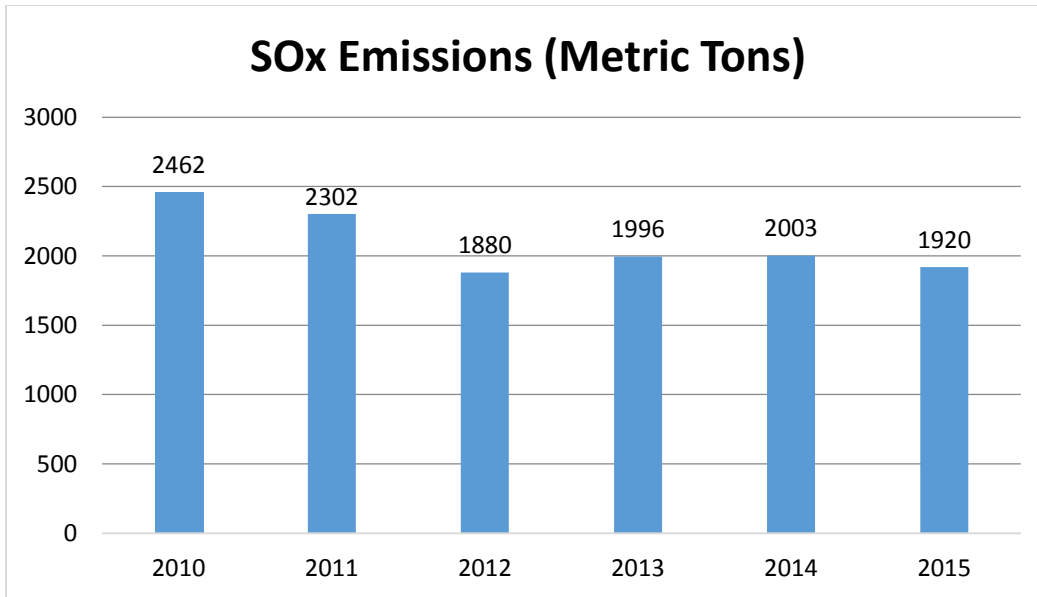


Figure 9: SO<sub>x</sub> Emissions 2010-2015

From an intensity standpoint, we achieved a 52% reduction in NO<sub>x</sub> emission intensity and a 44% reduction in SO<sub>x</sub> emissions intensity from the 2010 base year.

### Dust Emissions (PM<sub>2.5</sub>)

In 2010, we committed to a 15% reduction goal for PM<sub>2.5</sub> by 2020. In 2015 we achieved 17% reduction in PM<sub>2.5</sub> emission intensity from our 2010 baseline year, surpassing our 2020 goal.

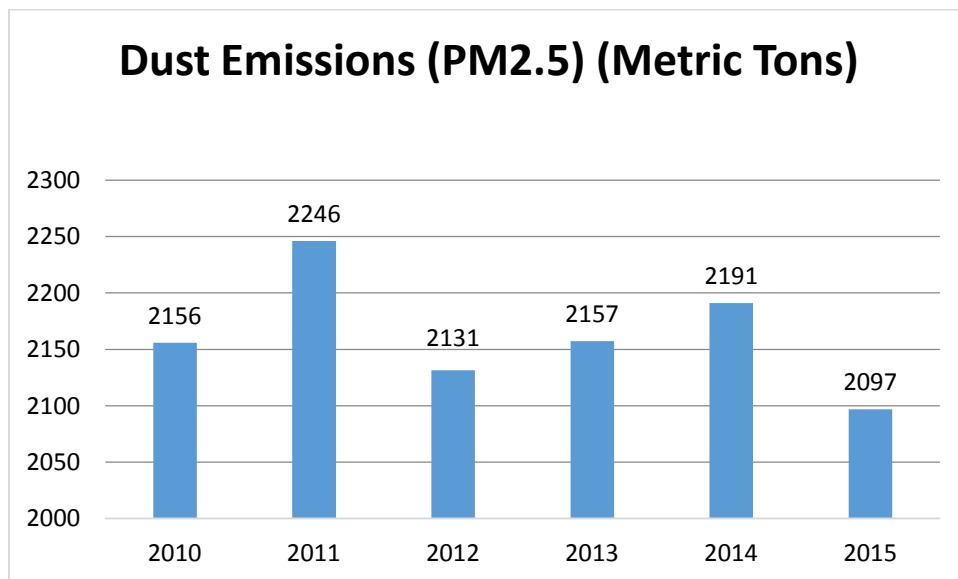


Figure 10: Dust Emissions (PM<sub>2.5</sub>) 2010-2015



Normalized PM2.5 Emissions 2010-2015	2010	2011	2012	2013	2014	2015
Weighted Intensity Percentage	100	97	93	88	90	83
Weighted Intensity (MT/MT of product produced)	.0016	.0016	.0015	.0014	.0015	.0014
Intensity is normalized based on MT of product produced						

Table 4: Normalized PM2.5 Emissions 2010-2015

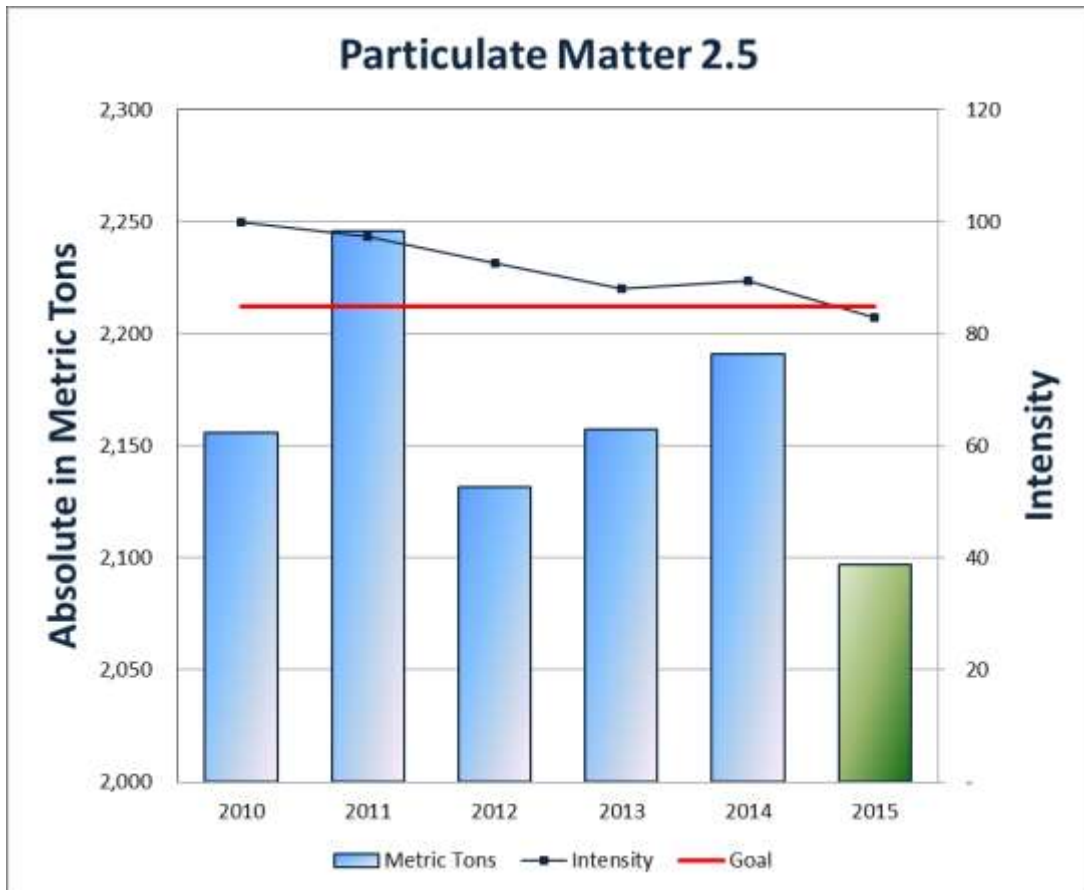


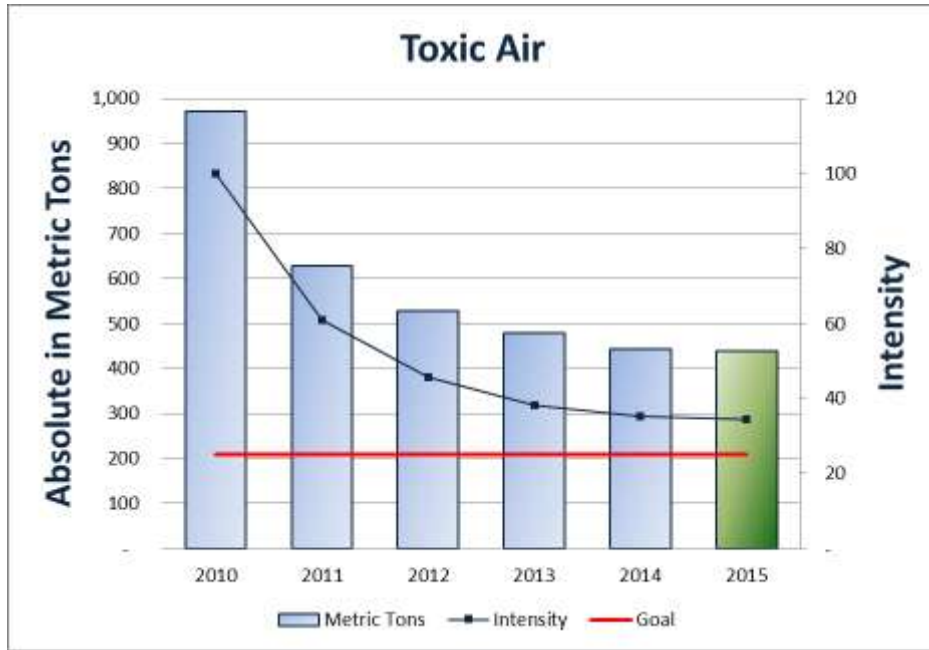
Figure 11: Particulate Matter 2.5 2010-2015

The residential EcoTouch® insulation conversion has driven much of the improvement seen to date. As evidenced with 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 dust emissions, we have subject matter experts who oversee testing at our facilities to ensure that results gathered are consistent and verifiable. 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.

## Toxic Air Emissions (TAE)

We are committed to a 75% reduction goal for TAE by 2020. In 2015 we achieved 66% reduction in TAE intensity from our 2010 baseline year.



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.

## Water Management

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. Owens Corning is focused on conserving water through increasing our water use efficiency and use of recycled and recirculated water.

### Addressing the Global Water Crisis by Reducing Water Consumption

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 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 focus on training to create employee and stakeholder awareness of effective water utilization.

Our exposure to supply and other water related risks varies between geographies, processes, and product lines. To proactively minimize the effect of water risk, we regularly conduct risk assessments using the 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 the 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 our facilities meet or exceed requirements for release of effluents and implement reduction targets that go beyond regulatory compliance.

All 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 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 one million cubic meters. Moreover, several of our facilities have achieved zero discharge level (other than water discharged for irrigation).

Partnering with stakeholders at both local and larger 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.

## Strategic Objectives for 2020: Reducing Water Intensity by 35%

Owens Corning continues to pursue opportunities to reduce water usage across our global locations. We have established our 2020 goals using 2010 as the baseline.

- We have established a water intensity reduction target of 35% by 2020, using 2010 as the base year. In 2015, we are reporting a 32% reduction against our goal.
- To achieve this 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).

## Water Withdrawal by Source (G4-EN8)

We source water for our operations (see Figures 1 and 2) from the municipal water supply, on-site wells, storm water, and from off-site water bodies and third parties. In 2015, we consumed a total of 9,764,192 cubic meters of water, a 13% absolute reduction as compared to 2010. More than 50% of the water is withdrawn from municipal water supplies.

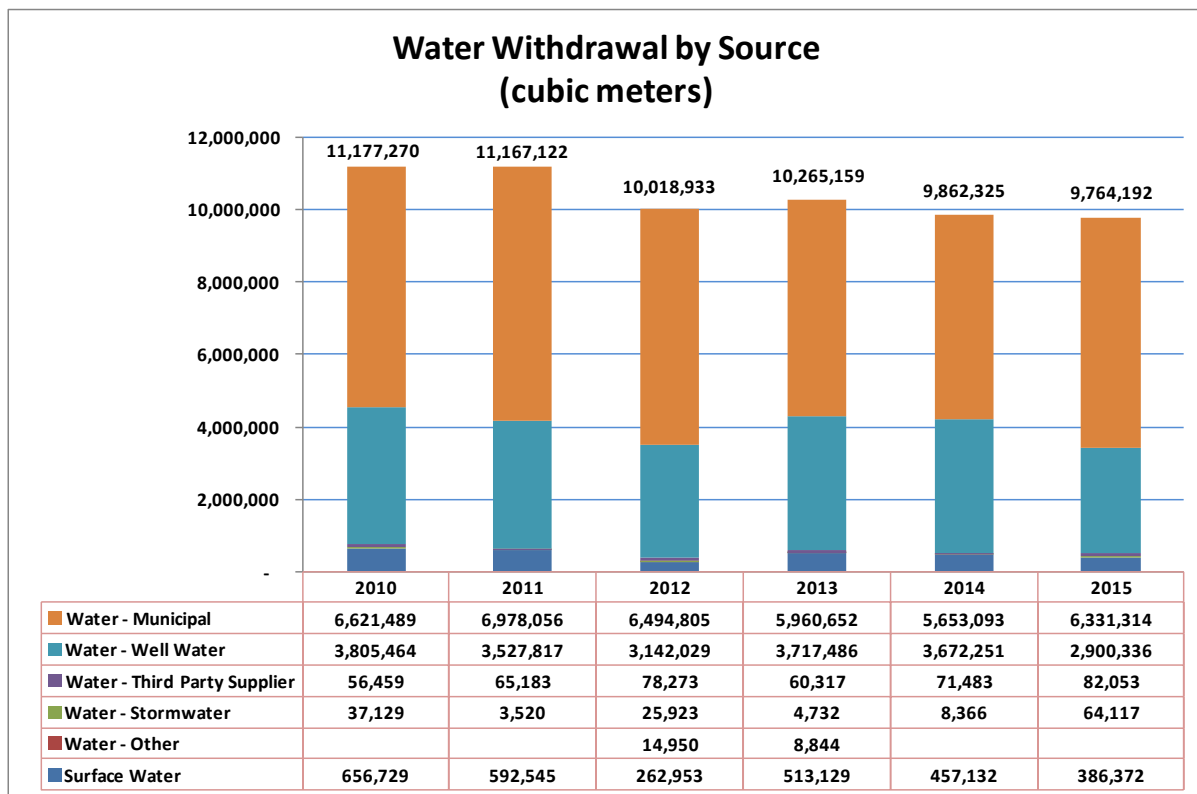


Figure 1: Sources of water withdrawal 2010 – 2015

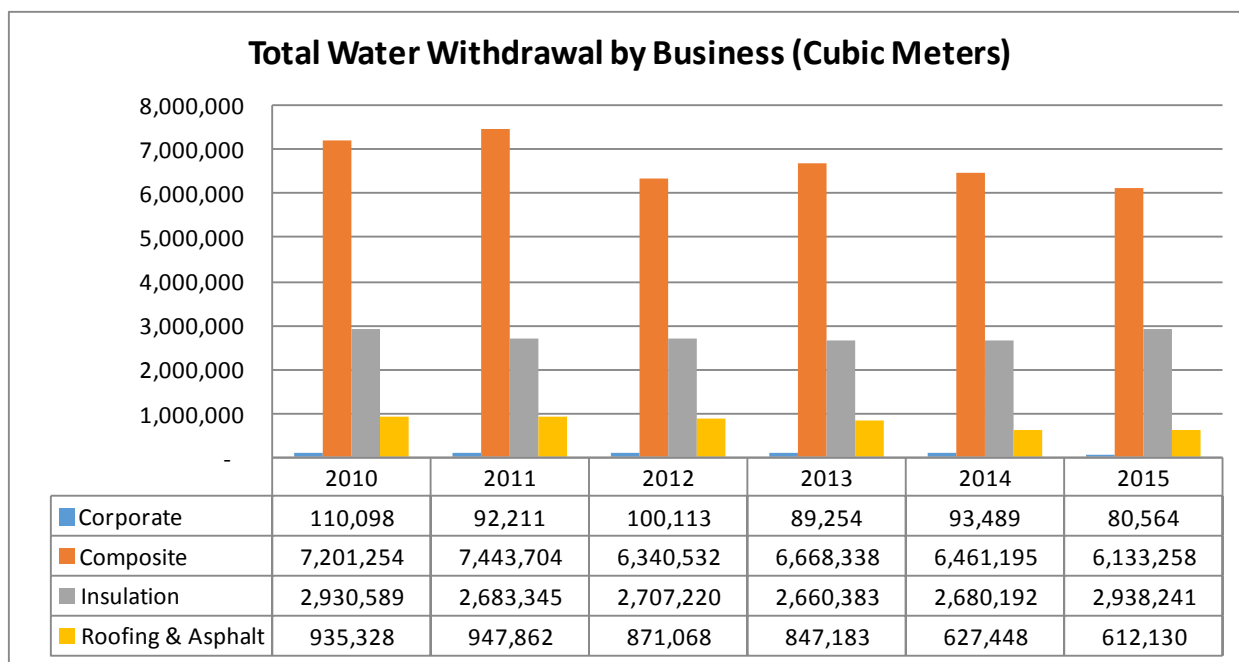


Figure 2: Water withdrawal by business 2010 – 2015

## Operational Efficiency

We believe that plant level efforts and engagement are critical to achieving our 2020 goal. In support of this goal we have undertaken water saving initiatives at our facilities (see Figure 3). 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 use 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 grass roots 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 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.

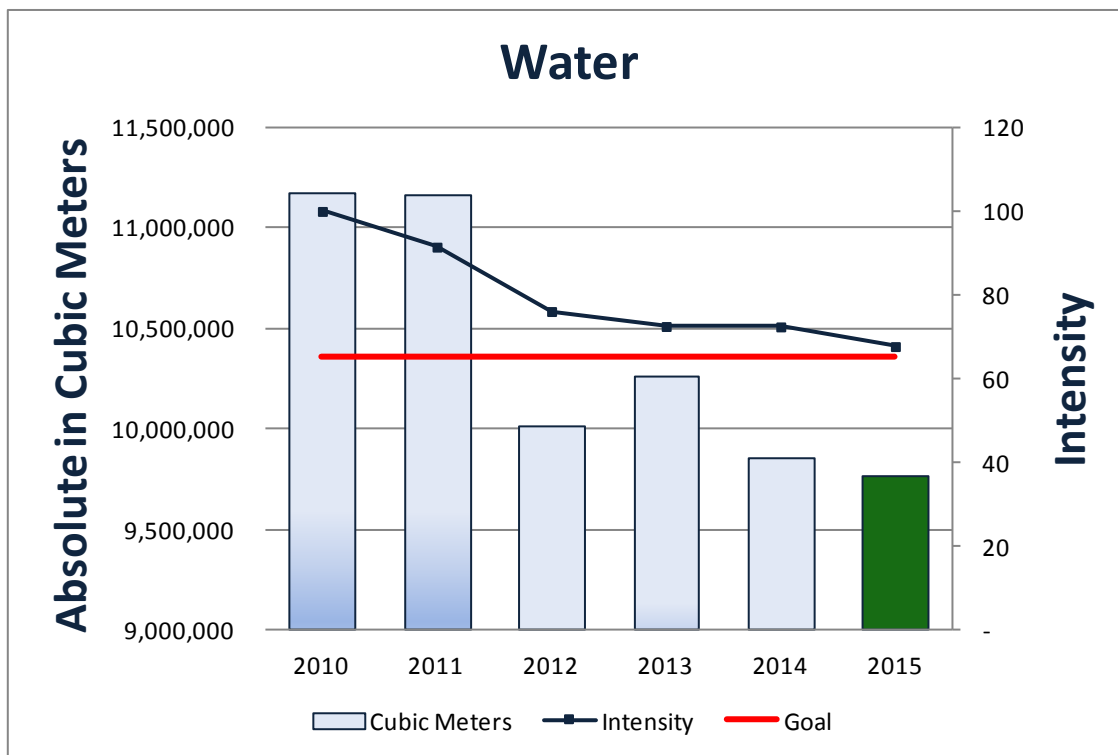


Figure 3: Owens Corning water withdrawal between 2010 and 2015: illustrating a 32% intensity reduction as compared to 2010

## Water Conservation Projects

We have undertaken various water conservation projects including:

**Mexico Facility Project:** In 2013, one of our plants identified as having an elevated overall water risk was also scheduled for increased production. In order to offset impacts, the plant began planning to implement water projects. In 2014 it mapped its water system and created a process flow diagram. This was used to evaluate the implementation of water reduction projects. In 2015 the plant began testing a new process that will allow current waste water to go through additional processing and be reused elsewhere in the plant. Currently they are meeting two if three required permit parameters for reuse.

**India Facility Project Using Water Meters:** Over a two year period, 2014-2015, the facility installed 24 water meters throughout the facility to track water usage as well as identify and take corrective actions to minimize water waste. The facility has increased its water reuse through the location.

**Western United States Facility Water System Mapping:** In 2014, this facility mapped their water system, created a process flow diagram, and collected flow rate information throughout the system. Using this information, several water reduction projects were implemented in 2015. There are multiple phases to reuse water use throughout the production process and reduce the amount of raw water.

**Certified Water Efficiency Professionals:** In 2015 several employees attended the Association of Energy Engineers Water Efficiency training to learn strategies for water conservation and network with other water efficiency professionals. Three employees also completed the requirements to be named Certified Water Efficiency Professionals through the AEE. These professionals were trained on a variety of water efficiency programs. We are leveraging the capabilities of these professionals to implement programs across the company.

### **Case Study: Water reduction at Kansas City, Kansas, U.S.**

#### **The Challenge: Minimizing Water Usage**

The Owens Corning plant in Kansas City, Kansas was one of our highest water users.

#### **Owens Corning: Making It Happen**

Kansas City developed an engaged water reduction team at their site. The team led efforts to map water usage, install meters throughout the plant, and implement a monitoring system that allows the plant to quickly and easily detect and repair leaks and other abnormal uses of water.

#### **Measurable Results**

Since 2010 Kansas City has cut both its absolute water use and water intensity in half. In 2015 Kansas City shows over a 60% reduction in water intensity from 2010 levels. The plant has sustained its efforts and continuously implemented new ones to reuse water, discover leaks, operate more efficiently, and minimize municipal water use to decrease water consumption and costs.

#### **The Road Ahead**

The Owens Corning Kansas City plant has been an active participant in the Kansas Governor's 50-year Vision for the Future of Water in Kansas and has been recognized many times for its water reduction work. The Kansas City plant has earned the Kansas Water Environment Association's Gold Award for the sixth year in a row for its focused efforts to reduce water use, while ensuring environmental compliance, on-time permit reporting, and stewardship.

## **Water Recycling and Reuse (G4-EN10)**

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 as production processes at our Insulation facilities support water recirculation. As a result we have seen a significant decrease in water withdrawal, despite increasing production in our most water-intensive business.

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 2015, Owens Corning had a total water withdrawal of 9,764,192 cubic meters, of which 5%, or 476,026 cubic meters was recycled. We recirculated 183,854,399 cubic meters of water, which constitutes 1883% of total water use.

## Water Discharge (G4-EN22)

We track and report discharge (see Figure 4) quantities across all facilities by measuring and monitoring water discharge through meter readings. 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 2014, we have reduced overall water discharge by more than 225,000 cubic meters. Additionally, many of our facilities have achieved zero discharge – excluding water discharged for irrigation.

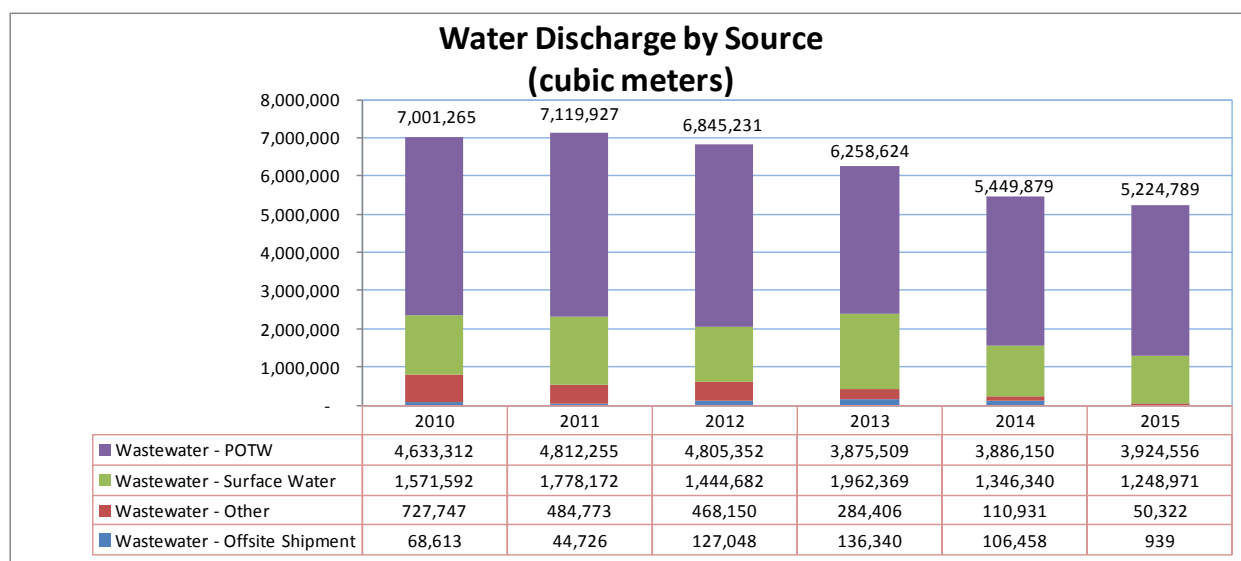


Figure 4: Owens Corning water discharge

We monitor water discharge intensity and have achieved 6% reduction in 2015 as compared to 2014 (see Table 1).

Wastewater Intensity						
2010	2011	2012	2013	2014	2015	
1.12	1.04	1.05	0.96	0.94	0.89	
Cubic Meters of Wastewater Discharged per Metric Ton of Product Produced						

Table1: Owens Corning waste water discharge intensity

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



Water Quality		2015
T.S.S		1,356
B.O.D.		312
C.O.D		2,016

Table 2: Water quality

## Key Plants for Monitoring Water Quality

Our different processes sometimes require specific monitoring and treatment processes 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. A site in the southern region of the 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 (G4-EN9)

We conduct annual evaluations of all our facilities to determine proximity to sites listed as ecologically sensitive or significantly important to maintaining biodiversity. 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 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).

## 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 our internal knowledge on our facilities located in high stress areas or areas where supply issues may arise. The top 80% of our supplier spend is analyzed for risk and impact. Annual self-assessments are also conducted by suppliers and the results of the assessment are sent to us. In 2014, we updated our supplier segmentation process to deploy a more transparent and detailed supplier assessment framework to enable active supplier management and we continued to strengthen this work in 2015.

Baseline water stress index value from 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 2015, for the fourth year, we performed a footprint analysis of water stressed areas. 13 facilities were identified in water stressed areas. This number accounts for about 14 percent of our active manufacturing facilities.

## Impact of Discharge Water (G4-EN26)

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, Alliance for Zero Extinction (AZE) 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 company environmental reporting requirements.

## Monitoring Mechanism

We periodically review our performance, goals, and targets based on our management system and existing practices. The review ensures that all necessary systems are in place for tracking and monitoring performance. Based on the results, we continually redefine the goals and targets. We also disclose our environmental performance on our sustainability website, GRI, and our CDP Water Response, as well as assess our position compared to other companies. This enables all stakeholders to provide feedback, which, in turn, is reviewed for necessary action and response.

At Owens Corning, a water sustainability team meets with business unit representatives and our manufacturing strategic controls team. The team evaluates data, conducts water surveys and discusses projects and water initiatives at the facility level. The team also tracks locally implemented initiatives at the plant level, records best practices, circulates the information internally, and reports on the progress to our Chief Sustainability Officer (CSO).

Our sustainability organization is headed by a CSO, who is also accountable for the Company's compliance with environmental, safety, health, and sustainability matters. As sustainability is one of Owens Corning's four operational stands, our employees are accountable for looking for ways to reduce our environmental footprint, taking action to reduce water usage, and sharing ideas on how to achieve our sustainability goals.

## Waste Management

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 to the disposition of recyclable materials. We are focused on becoming zero waste-to-landfill (WTL). We continuously look for ways to recover, reuse, and recycle by products and other waste material.

### Managing Waste Responsibly

Sustainable success cannot be achieved solely by manufacturing superior products; it requires operational excellence in the processing of raw materials and 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. We seek to increase the percentage of recycled content in our products and packaging materials, whether through the initial design phase or through continuous improvement efforts. We have established ourselves as one of the largest users of recycled glass in the world by using more than one 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 at Owens Corning also focuses on reducing waste during the complete lifecycle 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 to internal and external standards, guidelines, and laws.

### Strategic Goals

Business units across Owens Corning are launching initiatives to achieve our ultimate goal of zero waste to landfill in our business operations. In our first 10-year goal cycle, we have achieved 35% reduction in our waste to landfill intensity. Our goal is to reduce the waste to landfill intensity by an additional 70% in 2020. We have established a waste management plan at the facility level and its performance is being reported at the enterprise level. To achieve our targets, periodic reviews are conducted to assess the progress and take necessary corrective actions.

## Total Waste Generated and Disposed (G4-EN23, EN25)

At Owens Corning, we categorize waste into hazardous and non-hazardous categories. The majority of waste generated (see Figure 1) 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 2015, we generated 492,635 MT total waste, the overwhelming majority of which is non-hazardous waste.

### Non-hazardous Waste

In 2015, total Non-hazardous waste generated at Owens Corning was 489,649 MT (see Figure 1).

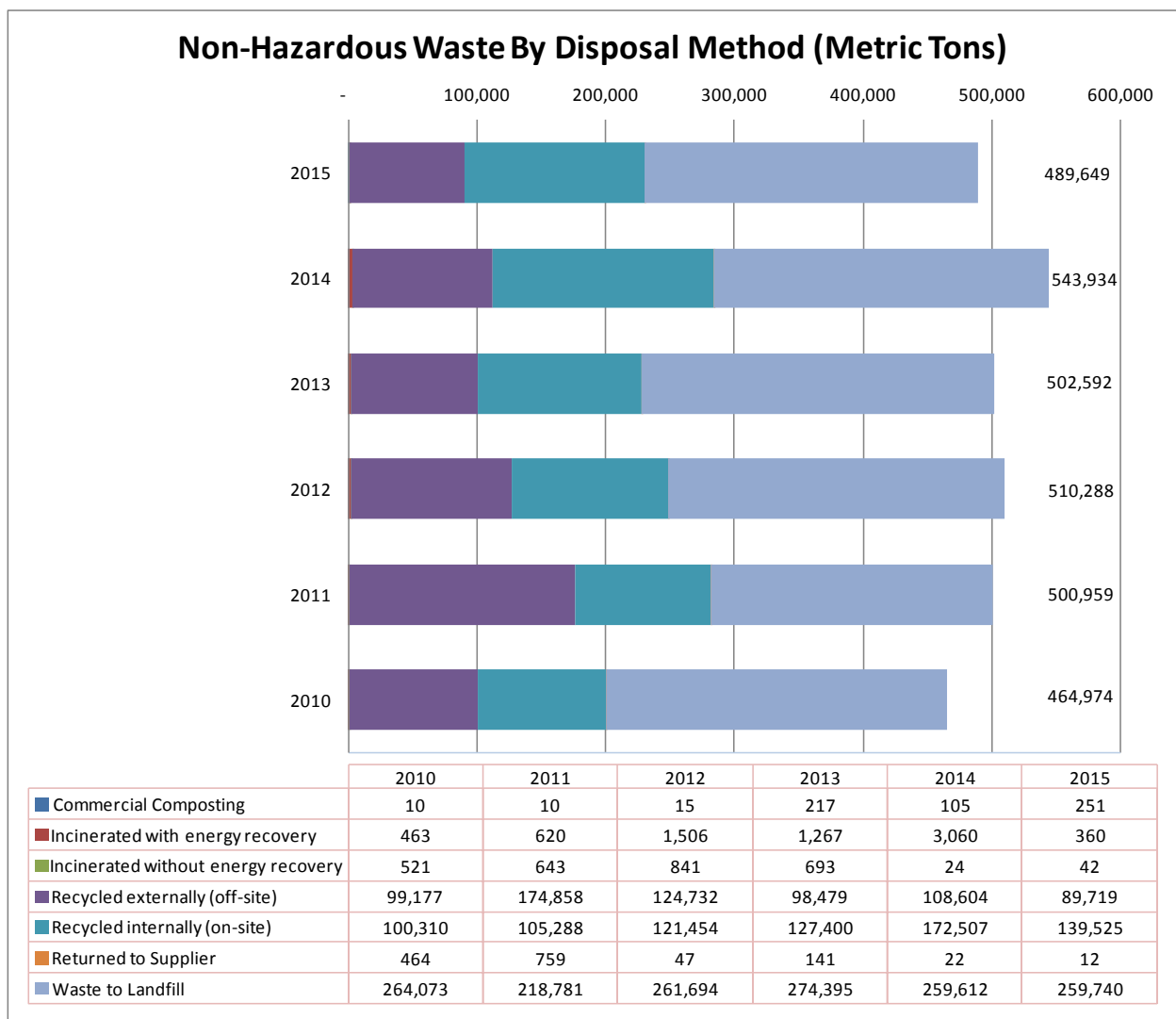


Figure 1: Owens Corning Non-Hazardous Waste Disposal

Non-Hazardous Waste (MT) By Business						
Business Unit	2010	2011	2012	2013	2014	2015
Corporate	1,326	1,290	1,332	1,938	1,695	1,691
Composites	234,437	247,429	195,504	202,646	189,616	189,162
Insulation	175,168	185,590	240,856	229,495	277,753	238,652
Roofing and Asphalt	54,042	66,651	72,597	68,512	74,870	60,144
<b>Grand Total</b>	<b>464,974</b>	<b>500,959</b>	<b>510,288</b>	<b>502,592</b>	<b>543,934</b>	<b>489,649</b>

Table 1: Non-hazardous waste by business

## 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 also incinerate, landfill, commercially compost, or internally recycle all the hazardous waste (see Figure 2) that is generated through our operations.

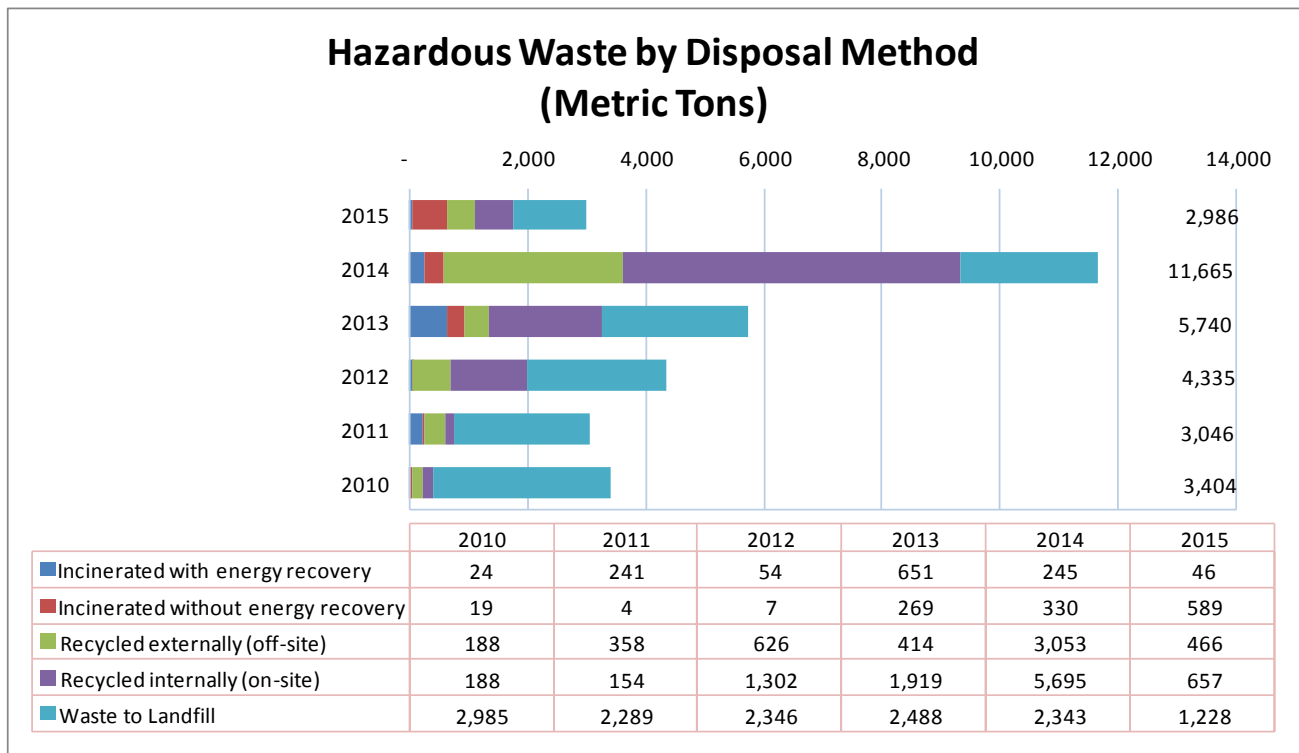


Figure 2: Owens Corning Hazardous Waste Disposal Method

Hazardous Waste (MT) By Business						
Business Unit	2010	2011	2012	2013	2014	2015
Corporate	5	13	24	21	14	17
Composites	1,165	594	1,886	2,170	6,340	1,329
Insulation	2,227	2,426	2,134	3,534	5,306	1,621
Roofing and Asphalt	7	12	291	16	6	19
<b>Grand Total</b>	<b>3,404</b>	<b>3,046</b>	<b>4,335</b>	<b>5,740</b>	<b>11,665</b>	<b>2,986</b>

Table 2: Hazardous waste by business

In 2015, the total quantity of hazardous waste generated was reduced by 12% to 2,986 MT, compared to 3,404 MT in 2010. 1,228 MT of hazardous waste was sent to the landfill and our business units have established a mechanism to track the intensity and amount of hazardous waste generated (see Figure 3).

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.

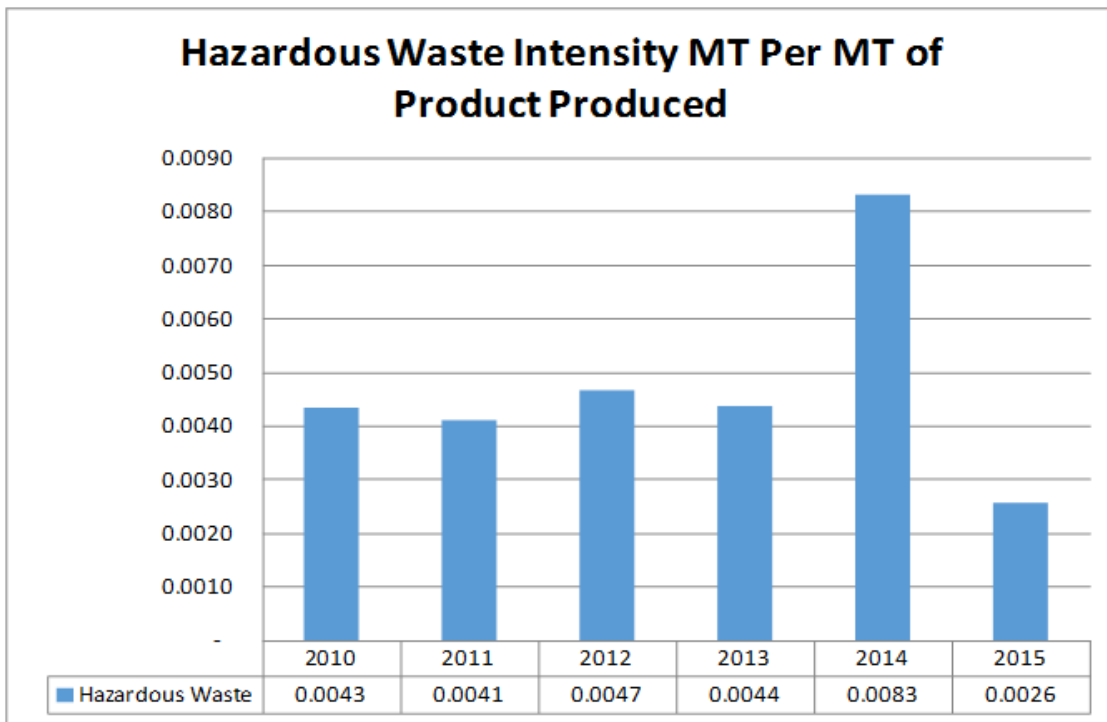


Figure 3: Owens Corning Hazardous Waste Intensity

## Waste to Landfill

It is our long term goal to generate zero waste-to-landfill (see Figure 4 and 5). In the interim, we have a goal to reduce waste-to-landfill (WTL) intensity (WTL disposed per unit of product) by 70% by 2020.

Compared to 2010, we are currently at a 14% reduction in landfilled intensity due to our continuous improvement efforts. Our overall diverted tons have increased by 15% since 2010. We have appointed a Global WTL Leader within the sustainability organization to drive WTL reductions and foster relationships with inside and outside stakeholders.

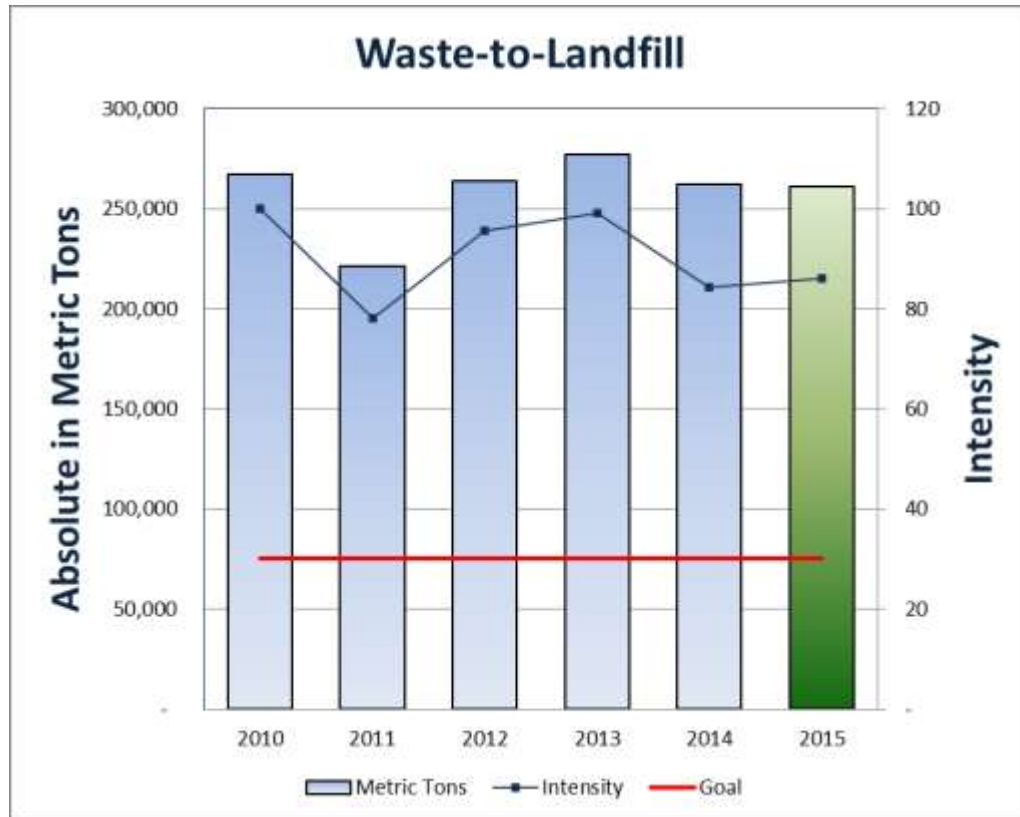


Figure 4: Waste-to-Landfill between 2010 and 2015

Normalized Waste Intensity 2010-2015	2010	2011	2012	2013	2014	2015
Weighted Intensity Percentage	100	78	96	99	84	86
Weighted Intensity (MT/MT of product produced)	.115	.090	.110	.114	.097	.099
Intensity is normalized based on MT of product produced						

Table 3: Normalized waste intensity from 2010 – 2015

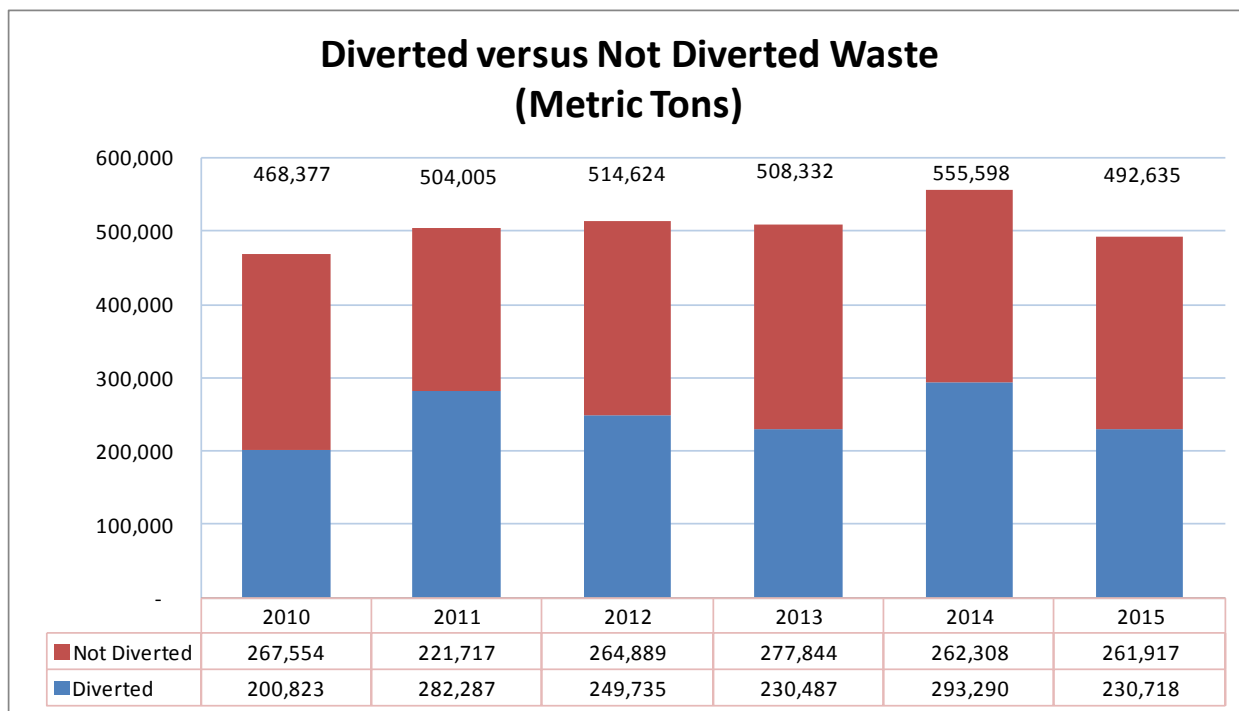


Figure 5: Diverted and Non-Diverted Waste

## Waste Management Initiatives

At Owens Corning, waste management practices are well established. We have developed an internal rating system for our facilities with respect to their waste management efforts. 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.

We have undertaken various waste management programs both at the plant level and enterprise level, including:

- **Midwestern Insulation Plant:** We expanded our recycling relationship with a local company when original equipment manufacturer plants temporarily lost their recycling outlets for scrap fiberglass.
- **East Coast Facility:** We partnered with local organizations to identify third party baler to expand our recycling partnerships.
- **Texas Plant:** The plant initiated discussions with a company to explore the potential for recycling process waste from the plant. We also executed an agreement with an external company to build a recycling facility to recycle our Amarillo, Texas, plant's process waste.
- **Canadian Facility:** We initiated discussions with an external ceramics company, conducted plant visits, and provided samples of drain glass. We plan to process the scrap and provide samples to some of their customers.
- **Southern U.S. Plant:** We realized a full year of recycling/reuse with a new recycling vendor and identified customers in China who can use scrap mat rolls in road construction. These projects are currently awaiting a product stewardship review.



- **Asia Pacific Plant:** A Roofing and Asphalt plant in Asia Pacific identified two separate recyclers, one to recycle fiberglass mat and another to recycle sand, granules, and mixed filler. This has helped the plant achieve zero WTL.

To increase the percentage of waste diversion and reduce WTL, we have implemented various waste management initiatives across the enterprise.

- We expanded our relationship with a new recycler and sent shipments of scrap rolls and/or samples from several facilities. Currently, we are awaiting final execution of the recycling agreement.
- We initiated contact with an online waste marketplace. At present, we are working with a waste consultant to identify solutions for various waste streams from a Midwestern plant.
- At two European plants, we increased use of scrap trim waste in low spec solutions for container flooring, low-end auto parts, and roof sealing.
- We have implemented two projects that focus on internal waste reduction/recycling of process waste at a Canadian plant. Our plan is to replicate this model of internal waste recycling across several Owens Corning plants.

## Significant Spills (G4-EN24)

Owens Corning understands that our operations have an impact on the environment through releases, spills, or disposal of wastes and other substances. In case 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 (see Figure 6).

	2011	2012	2013	2014	2015
<b>Number of spills</b>	0	2	0	0	0
<b>Total volume of spill (in cubic meters)</b>	0	111	0	0	0

Figure 6: Number of Spills between 2011 and 2015

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

## Monitoring Mechanism

Our management system and existing practices require us to periodically review our performance and progress against goals. This review ensures that all necessary systems are in place for tracking and monitoring the performance of our waste management efforts. We disclose our environmental performance in our annual sustainability report and benchmark our performance compared to other publically reported information. Public disclosure enables all stakeholders to provide feedback, which is reviewed so that necessary actions can be taken.

All our facilities have designated waste leaders who engage in waste and recycling management projects/activities, identify opportunities, and develop and implement projects. Information on the progress

made against pre-determined goals, best practices implemented, and ideas are shared. The identified project/opportunity is then prioritized for implementation.

Our sustainability organization is headed by a Chief Sustainability Officer (CSO), who is also accountable for the enterprise's compliance with environmental, safety, health, and sustainability regulations. As sustainability is one of Owens Corning's four operational stands, our employees are accountable for looking for ways to reduce our environmental footprint, taking action to eliminate waste, and sharing ideas on how to achieve our sustainability goals.

## Employee Development

We aspire to build market leading businesses, global in scope – human in scale. We show we are a unique company through how we care about people. Our employees are at the core of everything we do. We are committed to nurturing our internal talent, thereby strengthening the foundation for long term success and sustainability. We are building a diverse and creative workforce through training and development programs, learning opportunities, and incentives. We are committed to work-life balance and ensuring our employees are safe and healthy.

### Nurturing Our People

Developing leadership from within the company, across levels and job roles, is one of our core philosophies. We believe that employees are our greatest asset and their training, development, and growth are vital to our success. Lifelong learning is expected of all employees at Owens Corning. We recognize that each employee is unique, and therefore, we create individualized development goals along with a diverse set of learning opportunities. Examples include formal learning programs, self-guided resources, coaching, and community impact opportunities. Building strong relationships with all employees helps us understand individual employee perspectives and contributions. We use opinion surveys, town hall meetings, and one-on-one employee development discussions to actively engage with employees.

Owens Corning is committed to investing in career growth of all employees.

On our Company website we say the following about employee development and career growth:

*Who you are tomorrow will build on where you are today. Lifelong learning is an expectation of everyone at Owens Corning. We are committed to investing in the career growth of all employees. We realize you are unique; therefore, we believe your development plan should be as unique as you are. We'll invest in you by ensuring you have individualized development goals along with a diverse set of learning approaches. Learning happens in many different ways, such as formal learning programs, self-guided resources, coaching, and social collaborative approaches. But most often, learning takes place through our daily experiences. We learn as a result of our work and interaction with peers, leaders, and other people. Our investment in our employees is our greatest return, so come and grow your career at Owens Corning.*

### Transition Assistance Programs (LA-10)

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

- Upon closing of an operation, facility or business unit
- As a result of a restructuring program that result in job elimination
- As a result of individual separations through 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 Code of 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 (retiring, part-time work, or active retirement).

Owens Corning offers a market-competitive retirement savings plan for U.S. employees that provides an opportunity to build a retirement nest egg. The 401(k) savings plan offers tax advantages and a wide range of investment options with a 100 percent match up to six percent of eligible pay. Owens Corning will contribute two percent of eligible pay whether or not an employee contributes to the 401(k) savings plan. All company contributions are immediately vested.

The Employee Stock Purchase Plan (ESPP) provides U.S. employees the opportunity purchase Owens Corning stock at a 15 percent discount every six months. Employees who decide to enroll in the ESPP will set aside after-tax dollars through payroll deduction into an individual account at Fidelity Investments. At the end of the stock offering period, shares will be purchased using these accumulated funds. The Owens Corning ESPP provides a convenient way for employees to build wealth, become shareholders, and take part in the Company's future success.

Owens Corning also has an EAP and work/life services program for all employees worldwide which continues for 6 months after employment ends with the company.

## Our Commitment

Owens Corning is passionate about creating an environment where employees' performance is fundamental to their professional growth and success. Our ongoing workforce development initiatives focus on both quality and quantity of development that go beyond basic compliance training. In 2015, we committed to providing at least 13 hours of training per employee, which we surpassed by tracking 30 hours per employee in 2015. For 2016, we are demonstrating that commitment by striving for 30 hours of training per employee focused on both the quality and quantity of development beyond basic compliance training.

## Employee Training and Developmental Programs (G4-LA9, LA10)

Owens Corning uses data recorded in our Company's Learning Management System (LMS), which is the responsibility of each facility. The LMS system contains data that primarily accounts for the formal learning conducted across the company (classes, eLearning courses, structured on-the-job). Most of the learning and development activities that take place in Owens Corning are considered to be informal learning, such as coaching, mentoring, social groups, projects, assignments, readings, and so forth. Each development program is designed to target specific objectives focused on achieving higher levels of business performance such as building a succession pipeline, increasing retention, improving our safety record, and furthering our diversity objectives. Owens Corning considers these indicators as essential enablers to superior business results. Given our focus on employee development, Owens Corning will continue to track, monitor, and evaluate future opportunities to grow our employees.

Category	Female		Male		Female		Male	
	Hours Sum	Hours Sum	Count	Count	Hours Avg	Hours Avg	Hours Avg	Hours Avg
Officer	143	253	11	47	13		5	
Manager	10,980	31,780	485	1,621	23		20	
Staff	14,725	24,201	849	1,505	17		16	
Primary	34,942	301,350	515	3,857	68		78	
<b>Total</b>	<b>60,790</b>	<b>357,584</b>	<b>1,860</b>	<b>7,030</b>	<b>33</b>		<b>51</b>	

Table 1: Female Employees

As a company we have developed several internal programs related to employee development targeted at different audiences globally to ensure a strong pipeline of employees for further growth. These programs range from early career development and mid-career advancement to executive level targeted training. The Owens Corning development offerings ensure we have the right focus on our employees during key periods in their careers to maximize their potential and contributions to Owens Corning's success. We also track the quality of our global leadership offerings through participant evaluations.

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. The 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 that accompanies each one. 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 Performance and Career Development (G4-LA11)

Percentage of total employees who received a formal performance appraisal and review			
Gender	2015	2014	2013
Female	99%	99%	98%
Male	99%	99%	98%

Table 2: Percentage of employees who received a formal appraisal and review

Table 2 represents only the staff employees. We do not have a standardized reporting process for primary employees at our plants. The 1% of staff employees that did not receive reviews were either on leave during the year, were in the process of being terminated, 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. When evaluating employees, we take into account the employee's performance relative to their objectives using four defined key performance indicators – results, impact, behavior, and talent.

## Employee Compensation and Benefits

Our talent management strategy and employee development processes and programs are aligned with the company's objectives and business strategy. In order to ensure we bring in the correct talent to our

team, we look at the business needs and then select individuals whose skills, knowledge and experience will best help us meet our business objectives.

## **Compensation**

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 to meet and exceed desired performance objectives by reinforcing behaviors necessary to achieve success. Employee compensation is performance-driven, market competitive, and fair. We reward both individual and collective contributions to the Company's 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.

Most 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.

## **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 are seeking a higher education degree and have worked for Owens Corning for at least one year are eligible to apply for the scholarship. The application period is held annually at the beginning of each year. Scholarships are awarded in amounts of \$2,000 or \$4,000 depending on the recipient's course load. Scholarship recipients are selected based on manager recommendation, statement of career goals, demonstrated leadership, and past academic performance.

## **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.

## Monitoring Mechanism

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, such as development hours, reduced turnover, and percent of internal placements as well as other human resources performance indicators.

As previously mentioned, Owens Corning uses data recorded in our Company's LMS, the input of which is the responsibility of each facility. The LMS contains data that primarily accounts for the formal learning conducted across the company (classes, eLearning courses, structured on-the-job). Most of the learning and development activities that take place in Owens Corning are informal in nature, such as coaching, mentoring, social groups, projects, assignments, readings, and so on.

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

## Safety and Wellness

Owens Corning considers employees' safety and wellness to be our 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.

### Creating a Safe and Healthy Work Environment

Living Safely is one of Owens Corning's six corporate values that includes safety in the workplace and beyond. We believe that all accidents are preventable, and our commitment to safety is unconditional. Our goal is to eliminate all workplace injuries and demonstrate our progress in our march to zero by improving our safety performance each and every year, as demonstrated by our recordable incident rate. Our safety strategy is based on identifying hazards and reducing the risk of injury by eliminating or properly controlling these 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 to focused efforts 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.

The focus across all our operations is incident reduction with the end goal of achieving our target of zero incidents. To achieve this, we continue to develop robust mechanisms to improve our capability to prevent incidents from occurring, and for any that do occur, ensure future prevention by learning from the root causes identified and the implementation of corrective actions.

Healthy living is a focus area for Owens Corning employees and their families. This program works to eliminate key health risks via sustainable programming within an employee-centric, caring model that attracts participation, creates a sense of well-being, and enhances the workplace experience. We endeavor to leverage state of the art medical and behavioral science to develop and operate initiatives that will measurably improve the wellness of our employees and their families.

### Our Strategy

Owens Corning's integrated approach to safety management goes well beyond traditional safety measures. We take a two-fold approach that focuses on controlling exposure to potentially severe, life altering injuries by addressing the activities that present the most risk. At the same time, we focus on governing routine tasks that may result in higher frequency, but less severe, injuries.

Through our safety management strategy, we enable leadership messaging, increase employee engagement, deploy engineering controls, and define standard procedures for safe operations.

Owens Corning has developed and implemented systems to ensure that occupational exposure potentials are 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.



Because of the success in occupational disease management, we have been able to focus on advancing and promoting our belief in the concept of “total worker health.” In contrast to our successful efforts in controlling/eliminating occupational disease, the relatively high prevalence of non-occupational disease threatens every employee within our global workforce. To address this burgeoning concern, we’ve created an integrated wellness program, Healthy Living, which is designed to enhance total worker health.

Owens Corning’s Healthy Living program includes six aspects of focus and aspirations:

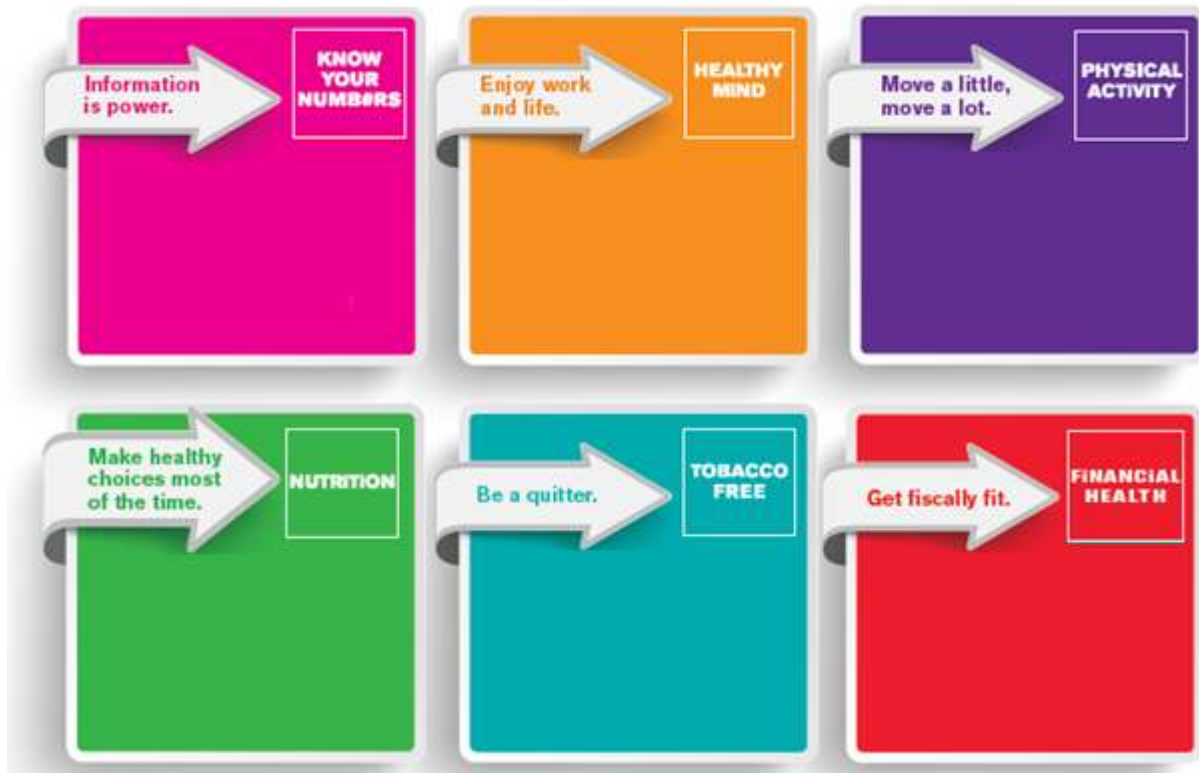


Figure 1: Healthy Living Program aspects

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.
2. **Healthy Mind:** Our aspiration is that all Owens Corning employees enjoy a meaningful work and life in an environment that helps them flourish.
3. **Physical Activity:** Our aspiration is that all Owens Corning employees and their families are educated and take action to counter the negative health consequences of low physical activity and lack of movement on and off the job.
4. **Nutrition:** We aspire to eliminate key health risks to employees and their families that result from poor nutritional education and unhealthy food choices.
5. **Tobacco Free:** We aspire to be a company where our people live tobacco-free.
6. **Financial Health:** We aspire to proactively help our employees confidently manage their financial life today while preparing for the future and anything unexpected.

## Health and Safety Risk Assessment

To ensure that our employees stay safe, we perform continuous risk assessment (see Figure 2) through the following:

- Conducting a detailed risk assessment of the tasks that occur at each facility and enabling root cause and corrective actions when incidents occur;
- Deploying internal assessment teams to facilitate site assessment and provide inputs to enterprise risk management assessments for the audit committee and Board of Directors;
- Tracking and maintaining incident history;
- Determining incident characteristics, associated root causes, and corrective action by enabling each business segment to analyze their recordable injuries, first aids, and near misses; and
- Reviewing typical risk related data on a regular basis.



Figure 2: Owens Corning risk assessment strategy

## Enhanced Risk Measures

In early 2015, we deployed a new set of risk measures across our operations based on a set of leading indicators. This enabled local leadership to mitigate safety risks effectively through enhanced insight. Since then, we have been collecting risk-related data and plan to revise our leading indicator metrics later in 2016 based on the correlation of these metrics to incident occurrence.

Our new risk measures include:

- **Consolidation of Identified Work-Related Risks:** We collect business segment level data regarding near misses, first aids, and recordable injuries for trend analysis and insights, and we consolidate corporate level leading indicators for analysis and review with business leaders.
- **Centralized Data Collection:** We ensure that recordable injuries and first aid injuries data is collected in a common data system so it can be successfully utilized to analyze incidents and

seamlessly manage case management. We also manage and consolidate near misses data and leading indicators at the business segment level for trend analysis and comparison.

- **Prioritization of Risk Mitigation Plans:** We ensure that every facility conducts risk assessments and establishes prioritized action plans to mitigate risks effectively. We have documented our top five risks in a centralized database for further analysis at a business unit (BU) and corporate level. Risk management is the responsibility of our BU directors, regional EHS leaders, and BU directors establish and monitor safety improvement plans at the facility level. These plans focus on improving the broader risk management system including, enabling effective leadership training and enhancing the effectiveness of our systems. We conduct corporate level assessments at an established number of facilities on an annual basis to identify gaps and establish corrective actions which are tracked to completion in a corporate level database.
- **Discussions on Work-Related Risks:** We conduct discussions of work related risks between human resources and managers of business units on a regular basis. These discussions are also shared between the EHS departments and executive management on a regular basis. The action plans are presented at all levels of the organization. Owens Corning utilizes a robust risk ranking system based on frequency, severity, controls, and probability. These risk assessments are, in turn, used to prioritize work and working capital. Business unit leaders utilize these rankings to identify resource requirements and are held accountable for proving risk reduction on both a quarterly and annual basis.
- **Progress Evaluation:** To track work-related incidents against targets, we monitor and share the weekly metrics across BU and corporate teams. The teams, in turn, share their feedback and communicate the impact of these metrics in real time. To ensure continual improvement, we conduct regular business unit reviews as well as results reviews with our senior leadership. We perform root-cause analysis of incidents, including recordable, first aids, and near miss events. The results are assessed through a process called Lessons Learned. The Owens Corning Safety Development team reviews the Lessons Learned under the guidance of operations leadership. We always welcome affected employees to be a part of both incident investigation and review process.
- **Internal Inspections and Consultations by OHS Specialists:** As a part of 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. Regional leaders may sometimes carry out inspections across divisions, bringing in a fresh set of eyes to eliminate hazards. In addition, our EHS assessment department thoroughly reviews all EHS processes at every site every 24 to 36 months.
- **Independent External Verification:** We ensured 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.
- **Embedding Safety Targets in Employee Goals:** The vast majority of people leaders (managers) have EHS based performance metrics embedded in their personal goals. These goals are maintained at our performance management system and are reviewed at least quarterly by the manager's supervisor.

## Worker Health and Safety Committees (G4-LA5)

Virtually 100% of all employees and staff offices report to their leadership, and safety, and health committees on health and safety issues.

### Injury Rate, Occupational Diseases and Lost Day Rates (G4-LA6)

We place high priority on reducing workplace injuries and have achieved significant reduction in injuries.

- Recorded an improvement of 7% across the enterprise with the number of recordable injuries decreasing from 90 to 84 between 2014 and 2015.
- Achieved a recordable incident rate of 0.52 in 2015, an improvement of 7% over the prior year.
- Since 2001, the number of recordable injuries has reduced by 93%
- According to the Bureau of Labor Statistics for 2015, our recordable incident rate is 86% below industry average.
- Twenty-one of our sites have been recordable injury-free for five years or more, whereas 22 of our sites have logged over 1 million or more man-hours injury-free.
- While we are not satisfied with our 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. These metrics have shown a combined improvement by approximately 8% as compared to 2014.

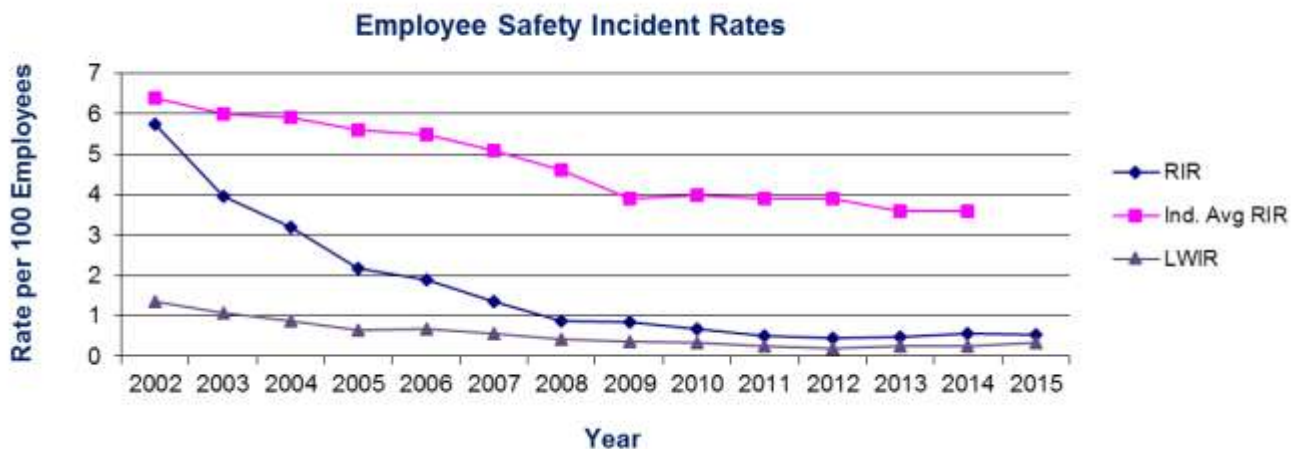


Figure 3: Employee Safety Incident Rates, 2005 – 2015



Figure 4: Contractor Safety Incident Rates, 2005 – 2015

The lost-time frequency rates (LTFR) for employees and contractors is highlighted in Figure 5.

REGIONAL SAFETY STATS 2012-2015-FINAL					
Region	Metric	2012	2013	2014	2015
Americas	Number of Injuries	57	59	74	59
	Total Man-Hours	21,040,672	22,088,821	21,632,095	22,067,784
	Number LWD Cases	18	29	30	35
	LWIR <sup>1</sup>	0.17	0.26	0.28	0.32
	LTIFR <sup>2</sup>	0.86	1.31	1.39	1.59
	RIR <sup>3</sup>	0.54	0.53	0.68	0.53
Asia Pacific	Number of Injuries	10	7	8	8
	Total Man-Hours	7,195,136	6,973,776	6,059,394	6,053,150
	Number of LWD Cases	8	5	6	6
	LWIR <sup>1</sup>	0.22	0.14	0.20	0.2
	LTIFR <sup>2</sup>	1.11	0.72	0.99	0.99
	RIR <sup>3</sup>	0.28	0.20	0.26	0.26
Europe	Number of Injuries	7	11	8	14
	Total Man-Hours	3,422,277	3,217,157	3,111,340	2,616,036
	Number of LWD Cases	4	9	4	12
	LWIR <sup>1</sup>	0.23	0.56	0.26	0.92
	LTIFR <sup>2</sup>	1.17	2.80	1.29	4.58
	RIR <sup>3</sup>	0.41	0.68	0.51	1.07
Latin America	Number of Injuries	2	2	0	3
	Total Man-Hours	1,161,467	1,135,862	1,112,313	1,316,153
	Number of LWD Cases	2	0	0	2
	LWIR <sup>1</sup>	0.34	0	0	0.30
	LTIFR <sup>2</sup>	1.72	0	0	1.52
	RIR <sup>3</sup>	0.34	0.35	0	0.46

<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 Incidence Rate): Number of Injuries X 200,000 / Total Man-Hours

Figure 5: Lost-time frequency rates for employees and contractors

## Safety Techniques

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

Some of our safety techniques include:

- **Linking Initiatives to Tangible Measures:** We avoid potential injury incidents by applying learnings from previous incidents. In 2015, more than 4,500 incidents were reported that included

near miss events, first aids, and recordable injuries. Thousands of hazards were identified and pre-empted through hazard hunts, employee safety committee activities, and formal risk assessment processes at a facility level. We immediately take corrective action against incidents and hazards through corporate level independent assessments, external Voluntary Protection Programs (VPP) assessments, 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 is also based on the input provided by incident root cause analysis and corrective actions taken. We work closely with our PPE suppliers to provide support to our facilities and train our employees for proper use of PPE. 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.

## Training and Certification Programs

In 2015 Owens Corning employees completed approximately 19,537 enrollments in safety-related training classes. Driver safety modules are supported by an outside provider and are focused on our fleet drivers. Over 350 sales personnel complete this training on a monthly basis amounting to approximately 31,400 hours of formal training.

### Quantified Targets of Education/Training

Education and training is conducted based on a combination of regulatory requirements, Owens Corning standards, and specific initiatives that require training in order to be successful. A major initiative over the past three years has been formalized training in hazard recognition and control, where more than 450 individuals have been certified as specialists and many more trained from a more general perspective. Training and education also extends to business unit and corporate leadership. We are closely engaged with the National Safety Council and the Campbell Institute, where we actively participate in conferences and symposiums addressing contemporary methods to improve safety performance. We do the same with ASSE and other organizations as well.

### Training on Potential Health Issues and Risks

Our goal is to keep employees safe by conducting EHS training across the facilities. We ensure that the process is managed at the lowest actionable level for the majority of safety training topics. Standard training modules are provided through a web based training platform which is fully integrated with our talent management system and has customizable learning plans.

### Regular Safety Training

We ensure that apart from formalized training, regular safety training is conducted during our daily safety huddles, monthly meetings, and annual refresher training. We procure specific safety equipment from our suppliers to meet the needs of employees. In addition, we provide a 'new hire' safety orientation for our new employees and have established focused training programs, designed and deployed by corporate level safety leadership and plant personnel. These programs are sometimes extended to business partners on an as needed basis.

## **EHS Skill Building**

To ensure the growth and development of our global EHS professionals and safety program administrators, we conduct a monthly EHS skill building live meeting that is presented by subject matter experts on specific EHS topics. These one-hour sessions provide an opportunity for participants to acquire practical knowledge and training. Downloadable versions of the training sessions are available online, and sessions are offered at various times of the day and week to cover time zones across the world.

## **Safety Training Strategy**

Owens Corning leverages industry best practices and a network of global safety supplier relationships to deploy end-to-end safety training strategy that enhances skill building capabilities of our employees across businesses, programs, and the EHS community.

## **Other Safety Training Initiatives**

A Certified Hazard Recognition and Control Specialist, Trainer, and leadership process has been launched throughout the company. Individuals with responsibilities to conduct risk assessments must undergo this training and complete work assignments with the intent to certify hazard assessments conducted for both routine and non-routine work. The focus is to provide selected individuals at each facility with improved hazard identification and control skills to eliminate hazards in advance of injury. Through end of year 2015 we have 27 certified trainers globally.

In 2015, Owens Corning continued the Extraordinary Safety Leadership (ESL) program, which includes principles associated with human performance improvement (HPI). Through external benchmarking and collaboration, we see more companies addressing HPI principles in order to improve the effectiveness of manufacturing and safety systems. Our ESL program is directed at front line leaders, and the inclusion of HPI principles will make this training even more effective. We also place emphasis on contractor safety and safety training for capital and construction projects. For major projects, behavioral based observations and audits are conducted to ensure proper safety behaviors and processes are being executed.

## **Emergency Training**

Emergency training is executed at the facility level and teaches employees to stay safe in the event of a fire, tornado, or workplace violence. We also execute drills for first aid, fire evacuation and tornado/storm sheltering on an annual basis and provide specific training for facility specific emergency situations. For example, at plants where furnace operations exist, training is provided on handling gas leaks. In our Roofing and Asphalt plants, training is provided on how to deal with asphalt spills. Operators are trained on how to respond to specific risks related to using blowing agents used to manufacture foam insulation in our foam manufacturing plants.

To ensure rapid emergency response, several facilities are staffed with emergency response teams who are equipped to respond to fire and other emergency situations. Our facilities also work closely with community emergency response organizations such as fire stations to conduct drills for a better understanding of the facility layout.

## **Hazard Recognition and Control**



The hazard recognition and control certification program teaches employees specific techniques to identify hazards unique to their work environment, how to quantify the risk associated with those hazards, and how to develop appropriate corrective actions to reduce the risk based on the hierarchy of controls. The program allows employees to become certified by demonstrating their ability to apply the concepts in their work environment, validate risk reduction, and teach their co-workers the basic concepts of hazard recognition. We currently have more than 430 employees globally certified as hazard recognition and control specialists and 27 certified as trainers in the program.

### High Incidence or High Risk of Specific Diseases (G4-LA7)

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, there are no worker groups with high incidence of disease.

### Formal Agreements with Trade Unions (G4-LA8)

At Owens Corning, application of labor agreements varies from site to site. The agreements are structured to recognize the importance of health and safety, which is a guiding principle and core value of our company and our employees. All of our employees are trained to understand, appreciate, and mitigate risk in the name of their own safety and health, the safety and health of those around them, and that of the organization. At Owens Corning, all employees, both union and non-union, are encouraged and expected to be involved in plant safety committees, hazard recognition programs, risk control events, and safety training, as well as safety inspections and observation processes.

The commitment is evident in many health and safety related processes and procedures active within our facilities, the caring demonstrated across all levels of the organization, and the world class safety results produced by the collaborative efforts of Owens Corning's global community of over 16,000 safety leaders.

### **Awards and Honor – Commitment to Health and Safety**

We were recognized by the National Safety Council as the 2014 recipient of the Green Cross for Safety medal for our "steadfast commitment to improving safety and health in the workplace and beyond". Owens Corning is also active in supporting initiatives for the National Safety Council and the American Society of Safety Engineers, and is a member of VPPA.

We are a founding and charter member of the National Safety Council Campbell Institute with our top leadership serving as the chairman of the Campbell Institute, the National Safety Council Board of Directors, and the Campbell Institute Steering and Advisory Committees.

Our Brookville, Indiana, Roofing and Asphalt facility achieved recertification in the Indiana Voluntary Protection Program as a Star worksite for excellence in workplace safety and health. Brookville's workplace injury and illness rate is 99 percent below the industry average. Between 2012 and 2014, the site only had one recordable injury. Brookville is one of 14 Owens Corning plants enrolled in the VPP and one of four Star sites.

We are proud to be one of the leading companies that have banned the use of cell phones by vehicle drivers while on company business. We have completed three years under this policy and have improved its implementation. This represents a great example of our company's passion to proactively identify risk and take necessary action to prevent identified risks. The new areas of focus include leading indicators and hazard recognition and control.

Owens Corning recognizes our employees internally for environmental in three categories:

- 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 no non-conformities 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 and product changes with significant environmental impact. Winners of this category may also be recognized as outstanding mentors and talent leaders who influence and develop others.
- 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. This award was granted to a group of employees who hosted a learning forum, which focused on renewable energy and industrial scale energy efficiency. The event was held on Oct. 30, in conjunction with the commissioning of the solar array at the corporate offices in Toledo, Ohio, U.S. Participants were about 125 external and internal stakeholders including suppliers, community representatives, nongovernmental organizations, and University of Toledo students. Two panels of internal and external subject-matter experts shared approaches and best practices for the benefit of the participants.
- The Environmental Impact Improvement award is given to individual or team efforts which significantly reduced negative environmental impact, or who also received public recognition or award for environmental impact improvement.

## Monitoring Mechanisms

At Owens Corning, the key enabler to enhancing safety strategy is our focus on tracking and maintaining incident history. We consolidate all recordable injuries, first aids, and significant near miss events at the corporate level, and analyze data with respect to incident characteristics, associated root causes, and corrective actions.

Leading Indicators are a collection of data, based on a detailed analysis of previous injuries, which indicate when the level of risk of someone being injured in a facility may be increasing or decreasing. Collecting this 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. The Leading Indicator metrics at Owens Corning fall into one of four functional areas: Human Resources, Operations, Maintenance, and Safety. The respective functional leaders at each plant are responsible for populating the data and documenting their action plan for any elevated levels of risk identified. The Plant Leader owns the execution of the process at their facility and is expected to ensure that the data is completed accurately each month, and that appropriate actions are being taken to reduce that risk. The process also provides visibility to senior leaders within each function of increasing risk levels across their business and the entire company to ensure proper action is being taken and resources are provided as needed.

The Leading Indicator process is in addition to self and independent assessments periodically conducted on our safety management systems. SAFE is our safety foundations program, focused on 18 common elements similar to ISO based safety programs. Our Critical Six is focused on programs closely associated with the highest risk activities that can lead to life-altering injuries. These include machine guarding, confined space entry, lock-tag-try, powered industrial vehicles, working from heights, and driving. In addition, other corporate standards have been established and monitored to ensure safe operations and compliance to regulatory standards.

## Community Impact

Owens Corning provides various channels through which employees can engage effectively with their local communities. We support our communities through product donation, philanthropic activities, and employee volunteerism, focused on the basic needs of health, education, shelter and safe, efficient housing for those in need.

### Making a Difference through Community Initiatives

With the stated company purpose of “our people and products make the world a better place,” our communities play an integral role in the success of Owens Corning. We define “communities” as the neighbors of our operating locations, our partner organizations, and all other stakeholders. We need to maintain and nurture healthy relationships with all of our communities.

As a leading global producer of residential and commercial building materials, we have the opportunity and expertise to aid the most challenged communities, providing the less fortunate with access to shelter, safe, efficient housing, and the basic needs of health and education. This work makes a difference and instills a sense of pride in our workforce.

The Owens Corning Foundation has significantly improved the conditions of local communities (see Figure 1) by leveraging strategic partnerships, engaging employees, and providing charitable contributions. In communities where concerns have been raised, Owens Corning has been proactive in community meetings and developing mechanisms for our stakeholders to review status updates while giving and receiving feedback.

Owens Corning plants and facilities actively engage with local communities through plant open houses, community volunteer events, service on charitable boards, and employee fundraising. We proactively address community concerns, conduct community meetings, and develop mechanisms for our stakeholders to review status updates. We understand that our sustainability efforts require social progress along with economic growth and environmental stewardship. This has prompted us to extend the scope of our sustainability impact beyond business operations, and make a difference by empowering people and the society.

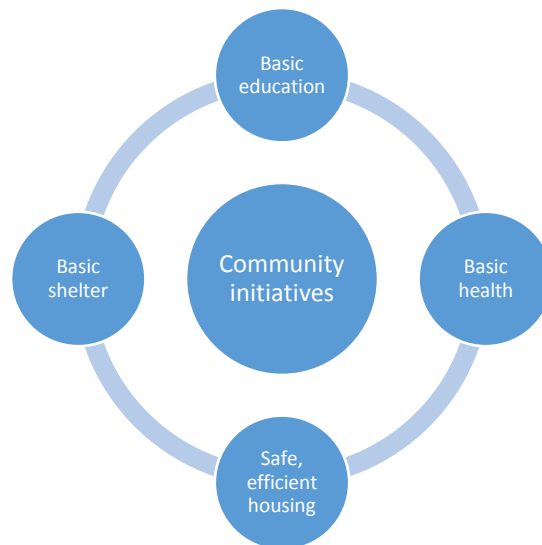


Figure 1: Owens Corning's community initiatives

## Strategic Objectives

We are committed to improving the living standard for our communities. As part of our community engagement initiative, we encourage our locations to participate in one or more community service project each year. In 2015, we exceeded our initial target of 62% location engagement. Our 2016 goal is to achieve at least 70% participation, reflecting our growing engagement around the world.

Owens Corning's strategic philanthropic areas of focus:

- Promoting and enabling safe and efficient housing solutions for those in need
- Aiding those in need of basic shelter
- Providing basic health and education for those in need

To achieve this goal, we encourage employee volunteer activities and provide cash and in-kind contributions.

## Community Investments (G4-EC1, SO2)

### Indirect Economic Impact on Communities (G4-EC7, EC8)

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 building science collaborations that indirectly impact our customers and the society. 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.

Owens Corning donated close to \$2.8 million dollars in cash contributions and in-kind giving. Examples included financial support and product donations to Make It Right, Habitat for Humanity, and financial support of organizations such as Cherry Street Mission. Additionally, through Owens Corning's campaign for United Way of Greater Toledo, our employee and vendors raised \$1.2 million in 2015.

## Strategic Partnerships

Owens Corning has partnered with world-class organizations and implemented best practices to build and renovate new and existing homes. We are working closely with the following organizations to further achieve our sustainability objectives:

### Habitat for Humanity International, North America

Through our three year partnership with Habitat for Humanity International, Owens Corning has completed approximately 15 home builds or renovations each year in the U.S. and Canada. In support of the company's growth and commitment to social progress, we support Habitat builds in communities where new manufacturing facilities are under construction. These build projects are accomplished with employee volunteerism, donation of product, and financial support from the Owens Corning Foundation.

In established Owens Corning communities, Habitat builds provide an opportunity for facility leaders to engage their teams in a fun day outside of the plant while benefiting the community. These builds are funded through our Foundation, highlight donated Owens Corning Roofing and Insulation materials, and are accomplished through employee volunteerism.

Some of these projects are new home builds while others are renovations of existing housing stock in economically challenged neighborhoods. Through a model of no profit, no interest financing, and fundraised capital dollars, Habitat provides homes for low income partner families who are not able to qualify for a traditional mortgage. Our yearly projects provide the opportunity for 15 partner families to realize the dream of home ownership.

### **Make it Right (MIR)**

In 2015, we partnered for the first time with Make It Right. MIR builds homes and buildings for communities in need while meeting the highest standards in green building. MIR homes are LEED Platinum certified and inspired by Cradle to Cradle thinking. MIR has a long-term goal to change the building industry to make energy-efficient, healthy homes affordable for everyone.

Owens Corning's first project with MIR was located on the Fort Peck Reservation near Wolf Point, Montana. For this project, Owens Corning donated all of the insulation materials for 20 homes built for families of the Sioux and Assiniboine tribes of Fort Peck, Montana. This first partnership with MIR has already led to plans for further partnership in Owens Corning communities in 2016 and beyond. MIR's mission aligns closely with the goals of our Insulation business, making the partnership a unique opportunity to drive business priorities while helping those in need.

### **Maumee Valley Habitat for Humanity (MVHFH), World Headquarters in Toledo, Ohio**

Headquartered in Toledo, Ohio, for the past 75 years, we have established a strong alliance with Maumee Valley Habitat for Humanity (MVHFH). Our 13-year long partnership with MVHFH has enabled us to build homes for 13 partner families who were previously renters, thereby enriching their lives. In partnership with MVHFH and United Way of Greater Toledo, we have established a Building Materials Bank (BMB) program, that allows us to donate roofing materials and insulation to the BMB located on MVHFH's property. Any charitable organization in need of building materials can submit an online application through United Way and get it approved by a community oversight committee, before procuring materials from MVHFH. This small step is aimed at giving smaller charities access to building materials in order to help the needy within our WHQ community.

### **India, China, and Mexico**

Through assessments and meetings with local communities in India, China, and Mexico, the Owens Corning Foundation has identified priorities for community engagement. One high priority is positively impacting the situation of the children of migrant workers. These families have moved from rural areas to industrial centers in search of work. In some cases, the children travel with the families, while other times they are left behind. Owens Corning employs migrant workers in facilities in China and India, and those workers generally live in the villages in the immediate vicinity of the plant. A great deal of our recent community effort in global locations is focused on the children of migrant workers, particularly in the villages near our plant locations.

#### **China**

- In our endeavor to improve the lives of migrant workers' children in China, we have partnered with Amway Charity Foundation (ACF) and the China National Committee for the Care of Children (CNCCC) to construct Spring Sprout Kitchens in schools located in the poorest neighborhoods in the Jiangxi and Shaanxi Provinces. This effort has benefited thousands of "left behind" children in those regions. The kitchens provide nutritious meals, including meat and vegetables, to more than 6,400 children.

- Through our partnership with Netspring Green IT, we provide refurbished computers to migrant schools in Yuhang, China, benefiting 830 students and 30 teachers annually.
- We facilitated teachers' training and delivered teaching kits and toys to 20 daycare centers for migrant workers' children in Shanghai through a partnership with the Shanghai Charity Foundation, thereby benefitting over 9,000 children in the age group of 3 to 6 years.
- In 2015, we partnered with China Habitat for Humanity to facilitate volunteer builds in the Owens Corning community of Guangzhou to make homes safer for elderly residents.

#### India

- We are working with United Way Mumbai and Hope Foundation in Thimmapur and Taloja to provide computer literacy training in village schools for 1,400 children.
- We have facilitated safe play facilities for 1000 children, safe drinking water facilities for 3,500 children, and sanitary restroom facilities in schools in our communities in India.
- We provide non-formal educational opportunities to 500 students, out of which 90% have shown improvement; 35 have received educational scholarship for outstanding performance.
- We have provided access to health services for 5,000 villagers in these locations and implemented a safe drinking water system in the village of Thimmapur, providing clean water to 2,000 residents each day.
- The Owens Corning Foundation has partnered with Mumbai Mobile Crèches in Powai, the location of our corporate office, to provide day care center facilities to migrant construction workers' children. More than 50,000 children live with their families at construction sites in Mumbai and 80% of them have no access to basic health and education.
- Our Taloja team took the Owens Corning safety commitment, specifically its lock-tag-try program, to two local schools. Team members found unsafe electrical conditions at the schools and worked to protect the children from a potential electrocution hazard. They conducted an electrical safety survey. The survey identified unsafe conditions and risks to the school children. They then prepared a corrective action plan, and worked to complete all actions in a timely manner. This included discussing the unsafe conditions with school teachers and holding awareness sessions for the school children along with their teachers. Owens Corning awarded the team for their efforts in 2015 with the Outstanding Safety Outreach award.

#### Mexico

- Fostering our community welfare objective, we have partnered with United Way Worldwide in Mexico to deliver computers to rural classrooms and construct a toy library in which students play and learn, positively impacting over 300 students and teachers.

## Employee Volunteerism

Nurturing the spirit of volunteerism is a part of our company's purpose – our people and products make the world a better place. We proactively promote volunteerism while providing support, encouragement and recognition to employees who volunteer through a variety of Owens Corning Foundation events. Our programs make significant contributions to charitable initiatives in Owens Corning stakeholder communities across geographies. We encourage our employees to take part in various volunteer activities, including helping migrant children in adapting to urban life, and making homes safer and communities more livable. Since 1993, the Owens Corning Global Volunteer of the Year Award program recognizes employees, teams, and retirees who have demonstrated outstanding community service. Our volunteer programs include:

- Matching gift programs that match employee charitable donations to educational institutions - up to \$2,500;

- Matching gift opportunities that provide assistance to Owens Corning communities affected by natural disasters;
- Global Volunteer of the Year Award program that honors employee volunteerism and includes categories for individual employees, teams of employees, and retirees. Honorees get the opportunity to donate \$10,000 gift to the charity of their choice;
- Enhancing Lives Grants that enable our plants and facilities to apply for grants for eligible community charities; and
- Dependent Employee Scholarship Program that assists children and legal dependents of Owens Corning employees who demonstrate scholastic aptitude and financial need in order to help them reach their full potential.

## Financial Support

We are committed to encouraging and supporting organizations whose work aligns with our giving goals. In 2015, the Owens Corning Foundation donated \$100,000 to the Cherry Street Mission's Life Revitalization Center that aims to change the lives of homeless through shelter facilities, support services, and vocational training. The Foundation entered a three-year, \$1.1 million partnership with Habitat for Humanity International to build safe, efficient housing for those in need. Globally, the Foundation works with United Way Worldwide to finance initiatives that bring basic health and education to those in need in Owens Corning communities.

## Product Donation

As a global leader in building materials and composite solutions, we are aware that our products can make a substantial impact in critical needs shelters and safe, efficient housing for those in need.

Donations of building materials are focused in support of that strategy in several key areas:

- Building and rehabilitation of safe, efficient housing for those in need;
- Neighborhood revitalization projects;
- Revitalization of shelters and community centers; and
- Disaster relief.

We have partnered with organizations such as Habitat for Humanity, Make It Right, Good360, and World Vision to enable seamless distribution of product donations across our locations.

In 2015, we donated shingles to re-roof 462 homes and insulation to cover 1,178 homes (the numbers are based on 25 squares of shingles for a 2,000 square foot home and 1,500 pounds of insulation per home).

In another example, we provided all of the insulation and roofing materials for a new Ronald McDonald House in Toledo, Ohio. The Ronald McDonald House offers families who travel to Toledo for their children's specialized medical care a warm, safe, clean, and friendly environment. The new facility has twenty-two private bedrooms and bathrooms and serves over 500 families each year, with an average length of stay of 8 days.

## Community Engagement (G4-SO1)



There is a growing movement by our facilities to be involved in at least one community project a year. Our participation rate increased from 50% in 2013 to over 66% in 2015, reflecting our growing participation around the world. This is accomplished through various methods, including plant open houses, community volunteer events, fundraising, community board service, and financial support.

The Owens Corning Foundation enters strategic partnerships to accomplish its community goals. Our partnerships support neighborhood revitalization in Owens Corning communities across the U.S. and international projects in countries like China, India and Mexico. Globally, we work to address the most basic needs in villages near our plant locations.

In 2015, 66% of our operations participated in a community project or local community engagement versus our goal of 62%. We have also conducted social impact assessments for several of our global locations to identify the needs of the communities and understand the impact of programs implemented by us.

In 2015:

- 5% of all operations (India: Taloja, Thimmapur; Mexico: Tlaxcala; China: Shanghai, Yuhang) have completed social impact assessments;
- 9% of all operations (India: Mumbai/Powai, Taloja, Thimmapur; Mexico: Tlaxcala; China: Yuhang, Shanghai, Guangzhou; United States: Toledo, Granville) are engaged in large-scale local community development programs based on the needs of the local communities; and
- Examples of other locations that are active each year in their communities include Denver, Colorado; Dallas, Texas; Atlanta and Fairburn, Georgia; Jacksonville, Florida; Toledo, Granville and Newark, Ohio.

## Monitoring Mechanism

At Owens Corning, our community impact opportunities are facilitated at a local level but managed through our Community Relations department on an ongoing basis. This approach allows us to ensure our employees are engaged in the right programs with our communities through education, healthcare, and effective housing solutions, as well as philanthropic activities. The types of engagement and impact of efforts are reviewed by the Executive Committee on a periodic basis.

## Product Sustainability

Owens Corning is committed to safeguarding, sustaining and improving the environment for the benefit of current and future generations. Our people and products make the world a better place. We are committed to innovating more sustainable products to meet the ever-increasing expectations of a dynamic marketplace. We are focused on developing sustainable products and evaluating our products impact through their life-cycle.

### Introduction

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 focuses on the following areas:

- Saving energy and water;
- Using salvaged, recycled, or plant-based content;
- Conserving natural resources through reducing material usage, exceptional durability or low maintenance, and use of rapidly 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.

### Life-Cycle Analysis

Owens Corning committed and achieved its goal to making transparent the total life cycle assessment (LCA) of all core products by 2015. The mechanism through which we have shown the life-cycle environmental impacts of our core products is by following a two-part methodology: (1) conduct an LCA according to the ISO 14040, 14044 and 14025 standards followed by an external, third party review and verification; and (2) develop an environmental product declaration (EPD) from the LCA.

LCAs have been conducted on a variety of Owens Corning products. These include its 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 and allowed improvements in processes that maximize their positive environmental impacts. Full cradle-to-grave assessments examine all stages of a product's life, starting with the extraction of raw material inputs, continuing through processing, manufacturing, and product use, and ending with disposal or recycling.

### Product Certifications

Owens Corning uses third-party organizations to test and certify product attributes and to disclose environmental and human health impacts. An 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 extruded polystyrene (XPS) foam insulation EPD in November 2013. EPDs have been issued for mineral wool products with the remaining building products complete in 2015. All are certified by UL Environment and can be found at the UL Sustainable Product Database or at Owens Corning's Architectural & Engineering Information Center.

## Goals and Commitments

Part of our 2020 goals was to make transparent the total life cycle of all core products. The mechanism through which we have shown the life cycle environmental impacts of our core products is by adopting a two-part methodology, given below:

- Conduct an LCA according to the ISO 14040, 14044, and 14025 standards followed by an external, third-party review and verification; and
- Develop an EPD from the LCA. Implement continuous and measurable improvements on those impacts.

## Environmental Impacts - Products and Services (G4-EN27)

Product and service information is required by the organization's procedures for product and service information and labeling.		
	Yes	No
Content, particularly with regard to substances that might produce an environment or social impact		X
Safe use of the product or service	X	X
Disposal of the product and environmental/social impacts		X

Table1: Products and Services information

At Owens Corning we calculate the environmental footprint of our products by conducting the LCA. Full cradle-to-grave assessments examine all stages of a product's life, starting with the extraction of raw material inputs, continuing through processing, manufacturing and product use, and ending with disposal or recycling.

During product stewardship reviews, compliance with the plant and location's environmental laws and requirements are reviewed. All new and significantly modified existing products sold by Owens Corning undergo a comprehensive product stewardship review to ensure that they perform as claimed and are both safe and environmentally sound to make, use, and dispose of. Additionally, we are committed to evaluating each of these products for their net sustainability gains or losses compared to existing products.

We have a documented guideline regarding materials of concern to Owens Corning. The purpose is to provide 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 guideline applies to the use of raw materials and other substances in all business activities used to produce products, including research and development, manufacturing, tolling operations, and distribution. This scope includes materials used to maintain the site facility and equipment. The list is reviewed at every product stewardship review.

### Initiatives Undertaken to Mitigate Environmental Impact

- An example of designing a product with a positive overall impact is Owens Corning's EcoTouch® PINK® FIBERGLAS® Insulation. It delivers customers comfort by helping homes stay cooler in

the summer and warmer in the winter, while helping reduce monthly heating and cooling costs (saving energy) for the life of the home. Designed with the environment in mind, EcoTouch® PINK® FIBERGLAS® Insulation includes a minimum of 50% total recycled content, is GREENGUARD Gold Certified, and is verified to be formaldehyde free. The use of renewable components like a bio-based binder, a high recycled glass content, the use of non-formaldehyde added materials during its production, and lowering volatile organic compounds (VOC) and particulate emissions at our manufacturing facilities were all part of the design criteria for EcoTouch® PINK® FIBERGLAS® Insulation.

- Owens Corning is also engaged in many efforts aimed at mitigating the amount of waste generated from our manufacturing processes in addition to reducing the amount sent to landfill through waste diversion programs.
- In our Insulation business, the amount of virgin raw material is reduced by purchasing pre- and post-consumer recycled glass cullet.
- Innovative manufacturing process technologies aimed at recycling off-spec product have been employed throughout our Insulation manufacturing facilities.
- When internal recycling practices have been exhausted, Owens Corning furthers our efforts to divert waste-to-landfill. With Hose2Habitat, we look at all of our waste streams out of our manufacturing plants and assess materials, that after reaching the end of their service life have the potential to enrich the habitat for animals. Materials and items for this program cardboard cores; conveyor belts; batch transfer buckets; sweeper brushes; brooms; grating; guarding equipment; empty spools; light- and heavy-duty hose; rope; lanyards; equipment strapping; super-sacks used for packaging; PVC pipe; conduit; plastic duct; 5-gallon buckets; 55-gallon poly drums; shipping crates; plastic pallets; and rubber tires. For more details on our Hose2Habitat program, please see the included presentation. In addition to Hose2Habitat, we donate off-spec, damaged, or prime product to organizations such as Habitat for Humanity, Good 360, and World Vision.
- We sell various levels or grades of our product, whether it's damaged, off-spec or slow moving and obsolete inventory (SMOI) in the form of B-grade, C-grade, salvage and scrap.
- As a global organization operating in many different countries and regions, some of our plants have developed outlets that have the ability to incinerate waste to generate electricity or other forms of energy. Owens Corning is committed to reducing waste generated at any point throughout the life cycle of the products we manufacture, including from the value chains of which we are part.

## Health and Safety Impacts of Products and Services (G4-PR1, PR2)

All new and significantly modified existing products sold by Owens Corning undergo a comprehensive product stewardship review to ensure that they perform as claimed and are both safe and environmentally sound to make, use, and dispose of. We have conducted more than 1,100 reviews since 1997 and more than 822 since 2006 when the product stewardship program was made a mandatory element of our Business Code of Conduct Policy. Product reviews address all elements of Owens Corning's Environmental, Health, Safety and Product Stewardship Policy, and are carried out by highly qualified Product Stewardship Review Board members. Reviews are conducted at various stages, including the design, development, test market, manufacture, and distribution phases.

As part of the 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 2015, 61% of new products and 50% 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 (lower plant air emissions, lower material consumption, lower energy usage and higher process efficiencies). Another frequent cause of gains in 2015 was moving to new product designs that use fewer materials. To further our work in understanding material health impact of our products, in 2015 we had third-party assessments conducted by MBDC and awarded Material Health Certifications by the Cradle to Cradle Institute on the majority of our Insulation products, comprising 29% of total revenue.

One hundred percent of Owens Corning's significant product and service categories are assessed for health and safety impacts. Following are a few examples of our commitment to mitigating the health and safety impacts of our products:

### **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.

### **MSDS to SDS**

Owens Corning has adopted the new requirements of the Occupational Safety & Health Administration's (OSHA) Hazard Communication Standard which are now aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The GHS document is an internationally agreed-upon system created by the United Nations, and designed to replace the various classification and labeling standards used in different countries. The change simplifies communication regarding hazardous materials and promotes international consistency.

As a result, Owens Corning no longer provided material safety data sheets (MSDS) but instead provided safety data sheets (SDS) to customers beginning June 1, 2015. Canada has also adopted the GHS. In the process of implementing, SDSs used in the U.S. will be accepted in Canada.

With the new requirements, many of our products are not considered hazardous materials, but are classified as articles, which are finished goods that do not pose an exposure hazard.

Owens Corning had no significant reported incidents of noncompliance with regulations or voluntary codes concerning the health and safety impacts of our products and services.

### **Product and Service Information and Labeling (G4-PR3, PR4)**

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 Environmental Product Declarations (EPD). Component content and disposal information is included on MSDS, SDS or Safe Use Instruction Sheet (SUIS).

Owens Corning issued the first EPD for North America fiberglass insulation in November 2012, followed by the first North American extruded polystyrene (XPS) foam insulation EPD in November 2013.

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 account for 51% of last financial year revenues.

Work continues with elimination of formaldehyde in binder formulation with the conversion of 701 Fiberglas™ insulation.

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.

## Review Mechanism in Place

Product stewardship is an integral part of Owens Corning's sustainability program. Our product stewardship organization reviews all new and significantly-modified existing products sold by Owens Corning, and is required as part of Owens Corning's total effort to assure that Owens Corning products are safe and environmentally sound to make, use and dispose of, and that the products perform as claimed. Product stewardship reviews address all elements of Owens Corning's Environmental, Health, Safety and Product Stewardship Policy. Product Stewardship also develops Guidelines for Product Developers, Engineers and Scientist to guide product/process development following Owens Corning's standards.

The Product Stewardship organization is designed with several components to ensure a structured progress and clear alignment to our corporate goals. Our Product Stewardship Leader is accountable for managing the process and keeping the Review Board balanced with the needed expertise and reports directly to the Chief Sustainability Officer. On a weekly basis our Review Board – consisting of global members with expertise in EH&S, medical, toxicology, sustainability, sourcing, reliability engineering, technical, and analytics – meets to review projects for new and significantly modified existing products. This organization provides council, guidance, and direction to ensure we follow 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.

To support this structure, we have a centralized, proprietary database dedicated to the product stewardship process available to all employees. This website includes guidelines, training material, review templates, and the Sustainability Mapping Tool. A secure database is also part of the process where all reviews and their supporting documentation are captured.

## Supply Chain Sustainability

Owens Corning is dedicated to being a solid corporate citizen around the world, upholding the highest standards possible in how we conduct ourselves and transact our day-to-day business. We know that maintaining a strong and positive reputation as a company is premised on earning it each and every day around the globe. We view supply chain transparency and risk management as an integral part of our processes. 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 assure they are dedicated to upholding high standards in how they run their companies.

### Introduction

Owens Corning has created a comprehensive Supplier Code of Conduct. It is 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 will act 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 supply chain partners to improve the total life cycle impact of our products, to increase energy efficiency, accelerate renewable energy adoption, and transform traditional material systems to stronger, more durable, and lighter solutions. Owens Corning is committed to driving measurable improvements in supplier focus, prioritization, engagement, performance, and risk mitigation through world-class sourcing practices. Owens Corning developed a supplier segmentation process for our top 1,000 suppliers. This segmentation tool allocates our suppliers into collaborative, critical, transactional, and constraint. Using this methodology, we developed protocols to actively manage our Critical and Constraint suppliers. Actively managed suppliers may require a formal contract, specific performance metrics, a well-documented risk mitigation plan, an audit plan, and a cadence of management reviews.

In 2015, 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 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 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; and

- Convert 50% of North American transportation miles from diesel fuel to natural gas.

## Organization's Supply Chain (G4-12, 13)

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 as 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 these finished products or, in the case of Composites, a finished raw material for another business to utilize. We have [facilities in 25 countries](#). As part of our supply chain we also manage inbound and outbound freight transport via truck, rail, and ship.

Our total supply base numbers more than 17,000 but just 1,084 of these comprise 87% of our spending. With those 1,084 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 is 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 2015.

We evaluate our suppliers using a supplier segmentation tool identifying suppliers in four quadrants based on risk and value.

- **Collaborative Suppliers:** These suppliers have a high level of spend, high impact to operations or cash (EBIT, terms, capital), create competitive advantage, or are defined as a critical customer to Owens Corning, (Owens Corning can't do business without this supplier).
- **Critical Suppliers:** These suppliers match the same description as collaborative suppliers; however they have a high risk component due to single sourcing, extensive cost, or difficulty to switch to alternative supplier, are prone to instability or are subjected to disruptions, or do not have publically stated sustainability and safety measures.
- **Transactional Suppliers:** 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 Owens Corning can do business without them. However, these suppliers have a strong financial health, have stability in business, and have no supply disruption.
- **Constraint Suppliers:** These suppliers also match the same description as transactional suppliers however, they have a high risk component due to single sourcing, extensive cost or difficulty to switch to alternative supplier, are prone to instability or are subjected to disruptions, or do not have publically stated sustainability and safety measures.

Owens Corning has detailed visibility on its supplier spend performance by using the business information (BI) tool within our SAP solution. Our tool enables the breakdown of the supplier spend by commodity type, business segment, location of suppliers, and by 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 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.



Owens Corning's suppliers by country are represented below.

<b>Country</b>	<b>Percent of Total</b>
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%

Table1: Owens Corning supplier base by country

Continuing the efforts started in 2014, a detailed study was reviewed to segment these top 1,000 suppliers based on impact and risk. Each supplier was objectively scored using six questions on impact and ten questions on risk. The resulting two-by-two matrix places them in one of four quadrants shown in Figure 1.

Each commodity leader creates specific action plans to increase the impact and decrease, or mitigate, the risk of their suppliers. Potential actions items, by risk quadrant, are shown Figure 1.

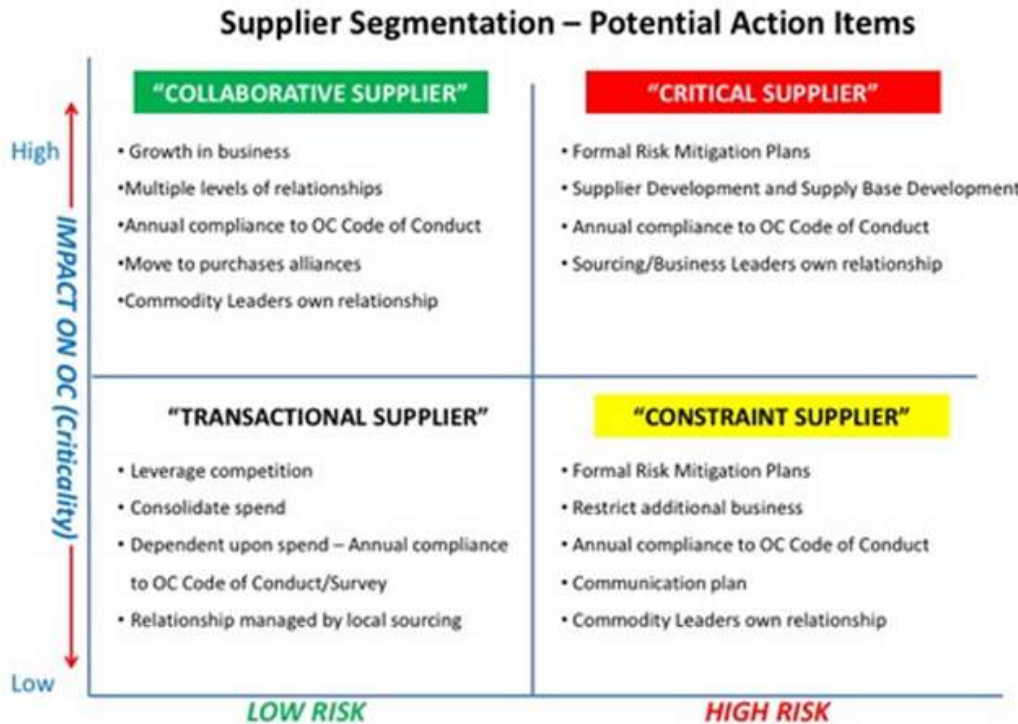


Figure 1: Owens Corning Supplier Segmentation Matrix

## Sustainable Supply Chain (G4-EC9)

Owens Corning’s supplier survey gives us the opportunity to work with suppliers to embed sustainable sourcing practices into our business. Suppliers are as much a part of the total supply chain as our own operations. As a result, 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 their performance objectives, and measure progress against those goals. Supply chain transparency helps us measure 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 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 its facilities. Therefore in 2015, 37% of Owens Corning’s purchases were made locally for significant locations of our operations. Some products, such as cullet (recycled glass), are sourced within 250 miles of plant locations 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, like reduction of discharges into natural surrounding and other sources of pollution; and
- Establish goals and monitor the reduction of their environmental footprint.

## Supplier Screening (G4-HR10, EN32)

Owens Corning 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 ten universally accepted principles in the areas of human rights, labor, environment, and anti-corruption. 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. Principle 1 (businesses should support and respect the protection of internationally proclaimed human rights) and Principle 2 (businesses should ensure that they are not complicit in human rights abuses) are both concerned with human rights. By doing so, businesses, as primary drivers of globalization, can help ensure that markets, commerce, technology, and finance advance in ways that benefit economies and societies everywhere.

In addition, we support 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.

In 2015, 100% of all new suppliers were screened using human rights and environmental criteria.

## Supply Chain Impacts (G4-HR11, LA14, LA15, SO9, SO10, EN33)

Owens Corning's Supplier Code of Conduct is available online and includes expectations regarding impacts on society for any organization or entity that directly provides goods and/or services to Owens Corning.

Owens Corning does not have any suppliers as having potential or actual significant negative impacts on society, human rights impacts, labor practices, or environment. No cases were reported in 2015. In support of these efforts, Owens Corning utilizes its segmentation process and annual supplier surveys to screen for potential human rights concerns.

Additionally, a new supplier screening process began in 2015. One hundred percent of new suppliers are now screened for any global or governmental sanctions using the Thompson 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.

Owens Corning 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 ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption. Our Supplier Code of Conduct was developed with guidance from the 10 principles.

## Monitoring Mechanism

Owens Corning's sourcing function reports to the Chief Financial Officer through the Vice President of Global Sourcing. There are close to 100 employees who are accountable for sourcing functions in corporate as well as our three business units. Our sourcing team members are also placed within our plants to assist our locations in the procurement of products and services locally. Owens Corning has a select group of employees, Commodity Leaders, whose job responsibilities include maintaining the risk and impact profiles of our suppliers and are responsible for the day to day relationships with their assigned suppliers.

We seek to actively manage and analyze suppliers with spend over \$400,000. Our spend analysis is applied to 87% of the total procurement spend. Although we regularly review spending below \$400,000 we do not conduct segmentation analysis for the suppliers below this spend value.

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 utilize a third party consultant to annually review the risk parameters and update our ESG-based framework to reflect new risks, which are added for evaluation of suppliers via an annual survey. We conduct a 60+ question annual supplier survey mapped to the ESG risk categories. This survey is kept open through the year to allow any new suppliers to contribute. Based on responses, we assess all the participating suppliers holistically. The output analytics drawn from the survey results help us rank our suppliers. We use this data to select and recognize our suppliers during our annual Supplier Recognition Day's awards ceremony.

## Recycled Material

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. When it comes to using recycled glass content in our insulation, we use as much as we can get. Through the years, we have increased our use of recycled glass, working in collaboration with municipalities and partners throughout the supply chain to increase recycled glass collection and processing but recycling of glass is at risk.

### Introduction

Recycled materials are a raw material for Owens Corning. Within our business units we work to maximize the amount of recycled materials to reduce our footprint. We utilize recycled content in most of our building products including fiberglass, extruded polystyrene (XPS) foam, and mineral wool insulation and source packaging materials with recycled content.

### 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 it also lowers our energy use when manufacturing insulation, since starting with raw materials such as sand requires more energy.

Although we strive for higher glass recycled content we realize 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 34%<sup>2</sup> of all glass containers were recycled in 2013. 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 aimed 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 working 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

In addition to our engagement with the GRC, we also work with the North American Insulation Manufacturers Association (NAIMA) and involved in several educational and informational workshops including those by the Closed Loop Fund and the Georgia Glass Recycling Workshop coordinated by SMI.

### Enhancing Input Recycled Content (G4-EN1, EN2)

We have a multi-pronged approach towards enhancing the recycled content, which includes:

- Seeking to include or increase the content of recycled materials in our products, and packaging either in initial design or continuous improvement;

---

<sup>2</sup> <http://www.gpi.org/recycling/glass-recycling-facts>

- Validating recycled content through third party verification bodies -- Scientific Certification Systems -- and offer documentation for use in green building programs, such as LEED;
- Promoting the attribute of recycled content and educate customers and consumers on the value this brings to reducing landfill waste and saving resources and energy. We promote this through advertising, trade shows, external speaking engagements, product literature and training, and information on our website. Our specifications provided for architects and specifiers also feature the element of recycled content for example our Division 7 E-Book;
- Promoting greener product/greener operations in industry presentations, case studies and forums including the benefit of recycle content and reducing impact in the life cycle analysis of the product for all the industries we serve; and
- Being members of organizations that promote recycled content in products, including the USGBC and their LEED program. Owens Corning employs third party certifiers such as Scientific Certification Systems and UL Environment.

Following are the details of our recycled input materials:

Materials Used	
<b>Total weight of materials used</b>	6,105,752 metric tons
<b>Total volume of recycled raw materials</b>	695,678 metric tons
<b>Percent of recycled content</b>	11%

*Non-renewable component: chemicals and minerals*

Table1: Recycled Input Materials

## Recycled Content in Primary Product 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, having a minimum of 53% recycled content and going as high as 73% for Canadian-made products, while continuing to provide the same energy-saving performance our customers expect.

We also have a highly certified post-consumer amount for our light density building insulation at a minimum 37% for North America. We also have 20% certified pre-consumer content in our XPS foam insulation in North America, using waste from various foam manufacturing operations.

Both product lines are certified by Scientific Certification Systems for recycled content, providing building professionals documentation that these products can contribute to meeting green building guidelines, such as LEED certification.

Thermafiber® mineral wool insulation has a minimum 70% recycled content and is validated by ICC Evaluation Services.

### Roofing products

Other Owens Corning products, including Roofing products, have recycled content dependent on where they are produced.

### Case Study: Ripple Glass

It has been six years since Owens Corning and Boulevard Brewery in Kansas City, Missouri, U.S., created what some call America's first self-contained metropolitan recycling system. The brewery was looking for ways to recycle its glass bottles, and the nearby Owens Corning plant in Kansas City, Kansas, U.S., was seeking ways to increase its use of recycled glass. Meanwhile there was no glass recycling program for local residents.

With the help of Owens Corning, Boulevard Brewery opened Ripple Glass, a state-of-the-art processing facility for glass recycling and reclamation. Residents drop off their jars and bottles at 60 locations around the city. Ripple collects, sorts and crushes the glass, and then ships it to Owens Corning where we assist in establishing a waste glass processing plant and take 85% of the collected glass to be made into insulation in the community.

The result is a win-win for the community and the environment. Ripple celebrated the recycling of its 100,000th ton of glass during 2014.

## Recycling End of Life Building Materials

### Shingle recycling

Owens Corning Roofing and Asphalt, LLC, 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 a landfill, 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.

We connect contractors with convenient recycling facilities through a national strategic alliance with Earth911.com and Heritage Environmental Services. As part of this program, contractors take the Preferred Contractor Shingle Recycling Pledge, committing to recycle their shingle tear-offs. Currently, there are 109 major cities with recycling locations. Sixty five percent of the U.S. population is covered by these locations allowing us to add the label "Shingles are Recyclable."

Homeowners can also commit to recycling by taking their version of the Shingle Recycling Pledge and selecting a contractor who recycles shingles from Owens Corning's contractor locator page. In 2015, we recycled an estimated 1.3 million tons of shingles through our recycling network, or the equivalent of 371,000 roofs saved from the landfill, of which the primary repurpose is asphalt pavement. Additionally, 31 new contractors in our contractor network pledged to recycle.

### Process Waste Recycling

Recycling initiatives have further reduced waste to landfill within our operations. Our 2020 goal is 70% waste reduction, with an aspiration to achieve zero waste to landfill at all our facilities.

***Further details on process waste recycling can be reviewed in the Waste Management section of the report.***

## Reclaiming of Products and Packaging (EN28)

The packaging for all our business lines is recyclable. Owens Corning utilizes wood pallets, which are reused throughout the plant 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.

## Review Mechanism

The use of recycled material is managed through our product stewardship process. Product stewardship is an integral part of Owens Corning's sustainability program. Our product stewardship organization reviews all new and significantly modified existing products sold by Owens Corning and is required as part of Owens Corning's total effort to assure that Owens Corning products are safe and environmentally sound to make, use, and dispose of; and that the products perform as claimed.

***Further details on the product stewardship process can be reviewed Product Stewardship section of the report.***



## Building Science

Building Science has been a key element in driving our product sustainability. Through sustained partnerships with customers, specifiers, architects, and builders, we hope to drive net-zero energy building capabilities, thereby achieving no net carbon releases. We also aim to expand our building science expertise to educate the building industry, engineers, contractors, and homeowners on safe and efficient building materials.

### Introduction

Building science is critical to realizing the objective of better performing buildings. We therefore incorporate building science in our product development cycle, enabling builders to achieve building code targets. Over the years, this approach has been a key component of our product sustainability strategy. We recognize the fact that climate change significantly impacts the society and the environment.

Additionally, with more stringent IECC regulations and introduction of the new Energy Rating Index (ERI) compliance path, we are focusing on design flexibility and cost saving. As ERI is targeted towards customer awareness, it allows home buyers to understand the home's energy efficiency and save money on utility bills. Therefore, we at Owens Corning strive to improve quality of life and increase energy efficiency by using innovative building products. Our insulation products are used in home's walls, roof and foundation to provide air sealing, moisture management, and acoustic solutions that improve the overall energy efficiency and comfort performance.

### Strategic Goals

In 2015, Owens Corning was committed to a 50% increase in the number of net-zero buildings we support through collaboration with our partners by 2020 compared to 2006 levels. Owens Corning's Conscientious Builder Program identifies builders that strive to build net-zero buildings. These builders have partnered with Owens Corning to capitalize on our building science knowledge and experience. By the end of 2015 we were able to surpass this goal with several large programs. With our success, Owens Corning is committed to a year over year increase from 35 net zero ready homes constructed in North America in the baseline year 2015.

### Partnerships for High Performance Buildings

We are dedicated to helping builders build better homes. We collaborate with the entire build team, from blueprint through construction phase, to address climate challenges, achieving performance goals as measured in part by HERS Ratings.

Owens Corning Insulating Systems is establishing how a building materials manufacturer can collaborate with builders to achieve new standards for comfort, durability, affordability, and efficiency in today's home building. Leveraging our building science expertise, Owens Corning is working hand-in-hand with builders to improve building practices and help them Turn Building Science into Building Genius™ – from high-end show homes like the 2016 New American Home® (TNAH) in Las Vegas, Nevada, to new home construction across the United States and Canada.

The customized collaboration between Owens Corning's team of building scientists and the builder begins with an understanding of the builder's specific design and performance goals. From there, Owens

Corning works as an extension of the builder team to develop tailored building science tools and High Performance Building Systems that specifically address climate-driven construction variables, including thermal, moisture, and acoustical considerations.

A remarkable example of customized homebuilding, TNAH reflects a year-long collaborative partnership between Owens Corning and Las Vegas-based custom homebuilder Element Design Build. Together, these companies worked hand-in-hand to literally change the game in homebuilding by applying building science-driven insights throughout the build cycle.

While TNAH is a show home, Owens Corning is partnering with builders throughout the country who are building in a wide variety of climates, regions, and communities. Builders such as Shea Homes (California), Ron Davis Custom Homes (Texas), Palo Duro Homes (New Mexico), Quail Homes (Portland, Oregon) and Thrive Home Builders, formerly New Town Builders, (Denver, Colorado) have worked closely with Owens Corning to create high performing homes that translate into highly differentiated buyer benefits.

Building science can help builders achieve goals, and, in turn, builders can help building science teams learn from their experiences helping builders. These partnerships help build better homes.

## Other Collaborations with Standard Organizations/Regulatory Bodies

### **ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers)**

ASHRAE advances the arts and sciences of heating, ventilation, air conditioning, and refrigeration to serve humanity and promote a sustainable world, and has adopted the AIA 2030 Challenge which is for all new buildings to be carbon-neutral in 2030 (using no fossil fuel GHG emitting energy to operate).

Owens Corning supports this goal by actively participating in ASHRAE's development of energy codes, standards, and guides through membership in:

- Standards 90.1 – Energy Standard for Buildings Except Low-Rise Residential Buildings;
- Standard 189.1 – Standard for Energy-Efficient Design of Low-Rise Residential Buildings;
- Standard 90.2 – Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings;
- Standard 160 Criteria for Moisture-Control Design Analysis in Buildings;
- Standard 55 Thermal Comfort;
- Technical Committee 4.10 Indoor Environmental Modeling;
- Technical Committee 1.12 Moisture Management in Buildings;
- Technical Committee 1.8 Mechanical Insulation;
- Technical Committee 4.4 Building Materials and Building Envelop Performance;
- Technical Committee 5.2 Duct Design; and
- Advanced Energy Design Guides (11). Current versions of these documents are targeted to achieve 50% energy savings towards the 2030 goal.

### **PHIUS (Passive House Institute US)**

PHIUS is an organization committed to making high-performance passive building principles the mainstream best building practice and the mainstream market energy performance standard. ***Owens Corning building science professionals sit on the technical committee.***

### **NAHB (National Association of Home Builders)**

Owens Corning advocates for and influences the adoption of improved building practices that are consistent with our sustainability values. We are active participants in the NAHB and employees participate in or serve on committees or councils, including the Building Codes Committee, Building Products Liability Committee, and the Leading Suppliers Council. Owens Corning is also one of three sponsors of the Builder 20 club program, an NAHB program that consists of 30 different clubs of up to 20 builders per club that meet twice a year to share best practices.

### **RESNET (Residential Energy Services Network)**

RESNET (Residential Energy Services Network) is a recognized, national standards-making body for building energy efficiency rating and certification systems in the United States. Within RESNET Owens Corning drove the creation of the RESNET Suppliers Advisory Board. We are a founding member and serve as first President and Chair. ***Owens Corning is active with RESNET on a number of committees and board of directors.***

### **BPI (The Building Performance Institute)**

BPI is the nation's premier credentialing, quality assurance, and standards setting organization for home performance professionals. Since 1993, BPI has been setting technical standards for home energy auditing and energy efficiency upgrades. ***Owens Corning is active with BPI with certified training proctors and with the board of directors.***

### **EEBA (Energy & Environmental Building Alliance)**

Owens Corning has been a supporter of EEBA for more than a decade. EEBA provides an invaluable platform for insight, collaboration, and education on building science. EEBA delivers unique and relevant, multi-platform educational resources with the intention to manifest sustainable and responsible building principles in the design, marketing, and execution of the building process. ***Owens Corning is active with EEBA on a number of committees and board of directors.***

### **Home Innovations Research Labs**

Owens Corning has been a long standing participant in research and application of products for high-performance building with the Home Innovations Research Labs and one of the first to be approved for products contributing to the National Green Building Standard.

### **U.S. Green Building Council – LEED**

Guides cover LEED v4 and 2009 for all building types. For more information about LEED certification, call 1-800-GET-PINK® (1-800-428-7465). ***Owens Corning provides LEED reference materials helping project teams specify the best Owens Corning products for LEED certification.***

In addition to the U.S.-based Green Building Council, Owens Corning was a founding member of the India Green Building Council and active with Green Building Councils in Brazil and Canada.

### **Green Globes®**

Green Globes Certification program provides customized in the design, construction, and operation of high-performance commercial, institutional and high-rise multifamily residential buildings, both public and private. ***It is a commercial building rating system that is an American National Standard (ANSI).***

#### **ecoEII (ecoENERGY Innovation Initiative)**

The ecoEII is a Canadian government program to promote long-term solutions to eliminate air pollutants and greenhouse gas emissions from energy production. ***Over \$4 million in funding and in-kind contributions from ecoEII, Owens Corning Canada and the building industry provided for the construction of at least 25 net-zero energy homes (NZE) in four Canadian provinces.***

#### **(ACMA) American Composites Manufacturing Association**

The GCC promotes sustainable practices and life cycle analysis of composite products. The Architectural Division seeks to educate and provide design guidance for the inclusion of composite materials in building construction. Composite materials can deliver performance attributes to enhance durability, energy efficiency, and flexibility of design, to name a few. Through the GCC research on end of life recycling for composite materials is underway. ***Owens Corning people serve on the board and many committees of the American Composites Manufacturing Association (ACMA) including the Green Composites Council (GCC) and the Architectural Division.***

#### **Other**

Other partner organizations in 2015 included Environments for Living®, the Alliance to Save Energy, Insulation Contractors of America Association, American Institute of Architects, Air Barrier Association of America, National Association of Home Builders, Southface, and the U.S. Department of Energy, including its Energy Race to Zero Student Design Competition.

### **Building Science Education**

Owens Corning is also involved in the advancement of sustainability through education and sponsorship of leading programs. We aim to expand our building science expertise to educate the building industry, engineers, contractors, and homeowners on safe and efficient building materials. The Building Science Team is responsible for leading, shaping, driving, educating and training others in energy efficiency and green building science, transforming building science into a growth engine aimed at accelerating energy efficiency improvements in the built environment. This includes a first-of-its-kind interactive Owens Corning® Enclosure Solutions Augmented Reality experience and case studies from healthcare, education, and high rise buildings visually brought to life with wall panel displays.

### **Case Study: Net zero buildings project, Canada**

**Concept:** The idea of a Net Zero Energy (NZE) home is that it employs enhanced energy efficiency design strategies to cost effectively reduce energy needs, while meeting those needs with renewable energy technologies, with the result that the building consumes equal to or less energy than it produces on an annual basis.

**Project details:** This project is aligned with ecoEII's goals of searching for long-term solutions to help eliminate air pollutants and greenhouse gas emissions from energy production. This project builds on the NRCan funded LEEP/TAP (Local Energy Efficiency Partnerships/ Technology Adoption Pilot) project to demonstrate the next housing platform in communities across the country. NZE homes continue to be stuck in a research and development phase and pilot demonstrations, with little focus on the unique challenges that the housing platform presents for the production builder. To achieve wide acceptance and industry adoption, a community-sized demonstration by production builders is critically important.

**Owens Corning's role:** This project is the largest NZE Community demonstration in Canada to date. Owens Corning Canada is the Lead Proponent of this project and is working with 5 homebuilders across the country. The five builders are: 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).

The NZE homes to be built in the five communities will use the new EnerGuide Rating System for New Homes to measure energy use and in many cases the new R-2000 requirements as the jumping off point to achieve net zero. 2014 R-2000 builder training and CodeBord® Air Barrier System training was provided to all five builder alliances to prepare them for the design phase.

Construction of the homes is expected to be completed by 2016.

## Product Innovation

At Owens Corning we are committed to innovation and value creation on behalf of our customers. Our vision to become a global company where market-leading businesses are built is spearheading our path toward new innovation. Fostering an innovative spirit will continue to be a cornerstone of our industry leadership to meet the ongoing challenges we face as a global community and enable continued growth into even more demanding, innovative applications and technologies.

Over the years, we have shifted from our approach of innovating technologies and then finding customers to innovations for meeting market need. We produce innovative products that improve quality of life and energy efficiencies; helping us support our commitment to environmental stewardship and social progress. Owens Corning has launched significant game-changing innovations in each of our businesses, allowing us to secure our market share in key segments. We've launched new products in the alternative-energy, transportation and communications markets and made significant enhancements to our Roofing and Insulation products. By leveraging our glass fiber technology, we position ourselves to develop specialty non-wovens that are flexible and strong enough to withstand tensile and flexural requirements in today's complex Composite-based products.

We find new ways to deliver innovative product and service solutions that meet customer needs. We listen to our customers and strive to deliver strong product performance with the introduction of best-in-class products and solutions supported by world-class technical expertise. With eight worldwide research and development centers located in key markets, we invest [offer: make investments] to ensure we deliver products and solutions focused on optimizing the role of our products in our customer's value chain. Through this focus, we work with our customers to deliver increased competitiveness through product redesign or productivity improvements. We offer one of the strongest technical teams in the industry to develop new products, solutions, and applications. We are an organization that responds quickly to changes in the market and our customers' businesses, providing relevant product, and solutions.

Owens Corning is committed to growing our employees and our talent mindset. Merging our employees' ideas with customers' feedback drives the innovation process. Owens Corning realizes employees are our biggest asset. We focus on skill development programs for our leaders with topics ranging from market segmentation, to identifying and articulating customer value proposition, to mapping out the value chain within industry and determining strategic control points. We are also investing in developing the change management capability of our leaders by teaching them key methodologies, skills, considerations, and approaches to initiating and sustaining change in their businesses as well as with external stakeholders. At Owens Corning, having unique relationship networks encourages people to connect together and fosters innovation. We have partnered with the world's foremost leaders in binder and coating technology, which enables us to develop solution-based products to meet customer needs.

As part of our innovation process, we have a structured product stewardship process where all new and significantly modified existing products sold by Owens Corning undergo a comprehensive review. This ensures our products perform as claimed and are both safe and environmentally sound to make, use, and dispose. We have conducted more than 1,119 reviews since 1997 and more than 822 since 2006 when the product stewardship program was made a mandatory element of our Business Code of Conduct Policy. Product reviews address all elements of Owens Corning's Environmental, Health, Safety and Product Stewardship Policy, and are carried out by highly qualified Product Stewardship Review Board members. Reviews are conducted at various stages, including the design, development, and test market, manufacture, pre-launch, and distribution phases.

The product stewardship process is also utilized to evaluate and approve opportunities for recycling of materials, which includes products manufactured and/or sold by Owens Corning and the waste material generated from the manufacturing of Owens Corning products that are reused (recycled) for purposes other than their intended use. Although a significant number of both internal and external recycling/repurposing opportunities were at various stages in the pipeline last year, six met the criteria for Product Stewardship Review in 2015 and 43 have been evaluated since 2006.

We also leverage a process we call Customer Discovery with select customers to have a more personal, candid conversation about where we are currently creating value and to identify what we can do to create additional value. This data is analyzed on a quarterly basis and factors into our strategic planning process, new product innovation, and functional area improvements and feeds business cases for investment.

### **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 to existing products.

We have a 2020 goal to create the pipeline and increase the value through sustainability in the innovation process.

## **Sustainability-driven Innovations**

Owens Corning's commitment to sustainability starts with innovation and collaboration to deliver energy efficiency and durable material solutions at scale.

### **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.

EcoTouch® PINK® FIBERGLAS™ Insulation includes a minimum of 50% total recycled content, is GREENGUARD Gold Certified and is verified to be formaldehyde free. The use of renewable components, like a bio-based binder, a high recycled glass content, the use of non-formaldehyde added materials during its production, and lowering volatile organic compounds (VOC) and particulate emissions at our manufacturing facilities were all part of the design criteria for EcoTouch® PINK® FIBERGLAS™ Insulation.

Other insulation products provide energy-saving thermal protection for HVAC, mechanical, and commercial applications including extruded polystyrene (XPS) and mineral wool Insulation.

### **Roofing:**

Our wide color range of "cool roof" shingles use a highly reflective granule technology that bounces back the sun's rays, helping keep roofs cooler and reduce air conditioning energy levels. They meet ENERGY STAR® requirements for solar reflectance of .25, the fraction of solar energy reflected by the roof.

### **Composites:**

In several applications, glass [is glass necessary?] 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.

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. Life cycle assessment takes into consideration the raw materials extraction, manufacturing, installation, maintenance, and end of life of composite parts vs. other materials.

## Direct/Indirect Economic Impact of Product Innovations

A risk we see related to our business and our industry is the significant competition we face in the markets we serve and we may not be able to compete successfully. All of the markets we serve are highly competitive. We compete with manufacturers and distributors, both within and outside the U.S., in the sale of building products and composite products. Some of our competitors may have superior financial, technical, marketing, and other resources than we do. In some cases, we face competition from manufacturers in countries able to produce similar products at lower costs. We also face competition from the introduction of new products or technologies that may address our customers' needs in a better manner, whether based on considerations of pricing, usability, effectiveness, sustainability, quality, or other features or benefits. If we are not able to successfully commercialize our innovation efforts, we may lose market share. Price competition or overcapacity may limit our ability to raise prices for our products when necessary, may force us to reduce prices, and may also result in reduced levels of demand for our products and cause us to lose market share. In addition, in order to effectively compete, we must continue to develop new products that meet changing consumer preferences and successfully develop, manufacture and market these new products. Our inability to effectively compete could result in the loss of customers and reduce the sales of our products, which could have a materially adverse impact on our business, financial condition, and results of operations.

## Recognition Received

**JEC Americas 2014 Innovation Award – Wind Energy Category Winner:** The JEC Group, the world's largest organization dedicated exclusively to the composites industry, awarded Owens Corning with the 2014 Innovation Award for Innovative Wind Turbine Blades Manufactured with Glass Fabrics. The award is intended to highlight the most pivotal advances in composites design, manufacturing, and application.





**OWENS CORNING**  
ONE OWENS CORNING PARKWAY  
TOLEDO, OHIO, USA 43659

**1-800-GET-PINK®**  
[www.owenscorning.com](http://www.owenscorning.com)

THE PINK PANTHER® & © 1965–2016 Metro-Goldwyn-Mayer Studios Inc.  
All Rights Reserved. The color PINK is a registered trademark of Owens Corning.  
© 2016 Owens Corning. All Rights Reserved. © 2016 Thermafiber, Inc. All Rights Reserved.