Module: Introduction

Page: Introduction

CC0.1

Introduction
Please give a general description and introduction to your organization.

Owens Corning (the "Company") was founded in 1938. Since then, the Company has continued to grow as a market-leading innovator of glass fiber technology. A Fortune® 500 company for 62 consecutive years, the company is committed to expanding our impact through sustainability as a core value and an essential element of our business. Owens Corning has earned its reputation as a market-leading innovator of glass-fiber technology by consistently providing new solutions that deliver a strong combination of quality and value to its customers across the world. 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.

SUSTAINABILITY Owens Corning is committed to balancing economic growth with social progress and environmental stewardship as it delivers sustainable solutions to its building materials and composites customers around the world. Owens Corning is striving to be a net-positive company by reducing the environmental footprint from its operations while growing its handprint – or positive impacts the company causes or enables to happen. Owens Corning's ability to deliver on this commitment has earned the company membership on the Dow Jones Sustainability World Index and recognition as the Building Products Industry Group Leader by the RobecoSam 2015 Sustainability Yearbook.

SAFETY: Owens Corning's commitment to safety is unconditional. In its quest for an injury-free workplace, the company has a long history of improvement as evidenced by safety improvement in 11 of the past 13 years. Since 2001, Owens Corning has reduced the number of injuries by more than 94 percent. The company had 86 percent fewer injuries than the average manufacturing company when measured against the rates published by the U.S. Department of Labor. The Company has been recognized by the National Safety Council with the 2014 Green Cross Medal Award.

Owens Corning reported sales of $5.4 billion in 2015 and employs approximately 16,000 people in 25 countries on five continents. Additional information is available at: www.owenscorning.com.

CC0.2

Reporting Year
Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Thu 01 Jan 2015 - Thu 31 Dec 2015

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Belgium
Brazil
Canada
Chile
China
France
India
Italy
Japan

Select country
South Korea
Mexico
Netherlands
Russia
Singapore
Spain
United Kingdom
United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD($)

CC0.6

Modules

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sub-industries, companies in the oil and gas sub-industries, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco industry group should complete supplementary questions in addition to the main questionnaire.
If you are in these sector groupings (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The complete Board of Directors monitors Owens Corning's progress against sustainability. Sustainability is embedded in the company from the products we make to the actions we drive within the communities we operate. In 2007 Owens Corning appointed Frank O'Brien-Bernini as the Chief Sustainability Officer (CSO). Mr. O'Brien-Bernini reports directly to the Chairman and CEO with accountability for the Company's compliance with environmental, safety, health, & sustainability matters. Reporting directly to the CSO is a sustainability organization with approximately 40 employees including of the Vice President of Environmental Health & Safety & Operations Sustainability. These employees are accountable for product & supply sustainability, building science, corporate toxicology, product stewardship, operations sustainability & Environmental Health & Safety.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Corporate executive team	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	Monetary rewards for the corporate executive team are based on progress to our 2020 energy/emission reduction goals.
Energy managers	Monetary reward	Energy reduction target	Monetary rewards for energy managers are based on progress to our 2020 energy reduction goals.
Environment/Sustainability managers	Monetary reward	Emissions reduction target Energy reduction target Efficiency target Behaviour change related indicator	Monetary rewards for environmental & sustainability managers are based on progress to our 2020 energy reduction goals.
All employees	Monetary reward	Energy reduction project	Our Composites business has an annual contest designed to drive participation for the Plant Energy Teams each year with cash awards which managed by the Energy Efficiency Program Manager. This program evaluates, among other items: (1) Implementation of low cost/no cost improvement projects (2) energy intensity metric improvement year over year, (3) a project listing for the following year is completed, (4) engagement in an energy program, (5) participating in energy program communications, (6) & implementing electrical reliability actions. Engagement in the Energy Program includes scoring for (1) holding site energy meetings with published minutes (2) holding at least one energy kaizen or assessment at the given plant, (3) participating in at least one kaizen events & assessments at another facility, (4) making at least one formal presentation for the internal energy network, (5) best practices shared across the network, (5) attending a given number of global energy network conference calls, (6) capital projects being implemented, (7) completing 16 or more hours of energy training.
All employees	Recognition (non-monetary)	Emissions reduction project	The Environmental Excellence award is designed to recognize sustained excellence in environmental stewardship & 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, & maintain high levels of trust & engagement with regulatory agencies. They may also oversee the effective implementation

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
			of broad regulatory changes, large equipment installations, or process & product changes with significant environmental impact. Winners of this category may also be recognized as outstanding mentors & talent leaders who influence & develop others.
All employees	Recognition (non-monetary)	Other: Environmental Outreach	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 & 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 & internal stakeholders including suppliers, community representatives, nongovernmental organizations, & University of Toledo students. Two panels of internal & external subject-matter experts shared approaches & best practices for the benefit of the participants.
All employees	Recognition (non-monetary)	Other: Environmental Impact	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. The award was given to group of employees & contractors who were instrumental commissioning of the solar array system installed at the Toledo, Ohio, U.S., world headquarters. The array will satisfy about 30 percent of the building's energy needs. Team members worked on this project for about three years before they found a justifiable solution. The array is comprised of a solar canopy of nearly 8,000 panels that cover about 1,000 parking spaces. Toledo workers benefit from covered parking for their cars – keeping them out of direct sun & protecting them from rain & snow. Four electric charging stations for electric cars also were part of the project. The stations are well used by employees.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	All countries of operation	> 6 years	Risk assessments over a varied time frame of three, five & ten year projections. The annual risk assessments are reviewed annually to add or delete any impacts

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

At the asset level, our business units (BUs) create business specific risk registers which are used in their Strategic & Operational Planning processes. In creating these registers, the BUs identify internal and external factors that could pose threats and opportunities to their business. They evaluate the potential impact and likelihood, and then establish management plans to mitigate the risk.
At the company level, Owens Corning has a risk committee that considers significant risk. The risk registers from the individual BUs as well as legal are consolidated and evaluated for the company as a whole. The company and BUs use risk maps as a risk analysis tool. They also use correlation analysis, sensitivity analysis & stress testing. Risk are retained, reduced/transferred or avoided.
. The various types of risks are outlined as follows:
• Risks retained (risk exposure is accepted without further mitigation): raw material inflation, employment practices, political risks, trade credit & privacy & cyberliability
• Risks reduced/transferred (risk exposure is reduced or transferred to others or consequences are reduced): Property Damage, Product Liability, Cargo, General/Casualty Liability, Directors & Officers, Fiduciary, & Crime
• Risks avoided (risk exposure will be eliminated entirely, e.g., through ceasing a business): liquidity risk-refinanced debt
There are also efforts for identifying risks & opportunities with respect to climate change that are coordinated through the Sustainability organization by on-going work with each BU to identify & address opportunities & identify & reduce risk through:

1. Operations Sustainability
2. Product & Supply Chain Sustainability
3. Innovation & collaboration to deliver energy efficiency & durable material solutions at scale
4. Employee safety, health & engagement & community vitality

CC2.1c

How do you prioritize the risks and opportunities identified?

The company has a risk committee that considers significant risk to the corporation. They have a process in which they:
1. Review 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 indicates that level of exposure is acceptable, while yellow indicates mitigation plans are actively in place, and red indicates that improved risk mitigation is needed.

2. 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 them through the businesses.

3. Review 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.

4. 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 the businesses. The risk committee also reviews the mitigation actions and outputs for the annual cycle.

5. Provide yearly update to Owens Corning Board of Directors

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

I. Owens Corning's business strategy has been influenced by climate change risks & opportunities that have been identified & managed by our risk organization as well as within our distinct business units. All risk assessment results & outputs are reviewed by the executive committee (including the CEO). Subsequently feedback received is incorporated in the action register & also reflected in the mitigation planning. In addition, the strategy is influenced by our major stakeholders, which include NGO's, customers, suppliers, investors, as well as through our interactions with universities & business groups. The internal processes identifying our corporate footprint & handprint also influence the decisions made by our business leaders.
II. An example given of how the business strategy has been influenced by climate change is our inclusion of energy into our risk register. This inclusion opened discussions at Owens Corning to onsite renewable programs at several of our locations. Even with these programs added to our energy portfolio Owens Corning realized that it doesn't have enough real estate to make the huge impact it wants through on-site renewables & efficiency alone, given the size of our company's energy demand. This shifted the focus of company to look at offsite wind energy which is very economically attractive now for the scale. By taking advantage of extremely competitive long-term wind energy pricing, as well as facilitating the transition to a sustainable & clean energy economy we signed power purchase agreement to procure 125 megawatts of wind energy from the Wake Wind Energy Facility in Texas, owned by Invenergy, & an additional agreement with NextEra for another 125 megawatts – totaling a 250 megawatt power purchase agreement for renewable electricity. Through these investments Owens Corning has agreed to purchase enough renewable energy to power 65,000 U.S. homes per year. This is the largest wind power purchase agreement reported by an industrial company in the world through 2015. The agreement will also help Owens Corning support the wind power industry, a market to which the company supplies high performance glass fiber reinforcements for wind turbine blades.
III. There are several aspects of climate change that have influenced our business strategy. The climate change influence on increasing frequency & severity of storms, as well as changing weather patterns over regions of the world has driven changes to our strategy that have improved our company's products. For example, in recent years we have made it a priority to develop roofing products with higher wind resistance & greater durability.
a. Opportunities to partner with companies who drive programs which are forward thinking on topics such as progressing building standards & safety has influenced our business strategy. One major strategy of the company is to participate at the board level at the Residential Energy Services Network (RESNET), BPI, NAHB, BICAP, EEBA, NSC, & the Campbell Institute. We are members of BICEP & on the advisory board of SASB.

b. Another climate change driver to Owens Corning's business strategy is regulatory change. We are supporting regulation to eliminate GHG emissions. Other factors of climate change that influence our strategy include water shortages & the need to reduce greenhouse gas emissions & energy use. We have committed to perform Life Cycle Assessment (LCA) to continue to develop our footprint & handprint.
IV. The short term strategy has been influenced by climate change in several ways. Owens Corning has instituted in the last two years a conversion process of the blowing agent used in manufacturing our foam products. This new blowing agent will dramatically reduce greenhouse gas emissions. We published a residential builders' guide on how to build a net zero home for all climate zones. Other initiatives have included instituting a sustainability mapping tool that influences & measures the positive sustainability aspects of 100% of our R&D projects, new products, & new processes, an increase in the amount of renewable energy sources, & reduced energy usage in automobiles, energy, & buildings. Due to the financial impact of increasing energy costs & the political reality of potential carbon taxes, we are striving to reduce energy use & emissions throughout Owens Corning.
V. There are also several aspects to our long term strategy that have been influenced by climate change.
a. Power Supply Sourcing – Owens Corning has moved from a mindset of 1 to 3 years of power supply to 15 to 20 years to access renewable energy in a cost effective manner.
b. Inclusion of offsite renewable programs in our energy analysis & portfolio.
c. Impending water shortages in water stressed areas now is part of our evaluation of suppliers & customers.
d. R&D Portfolio – Our R&D portfolio is guided by our sustainability mapping tool & our focus to ultimately be a net positive company. Innovation & sustainability are key drivers of our long term strategy. Owens Corning's products make the world a better place.
VI. Owens Corning sees a strategic advantage over its competitors through its integration of climate change in its long term strategy in several important ways. Our focus on sustainability has led to many new product & process developments, for example, the formaldehyde free EcoTouch® insulation & Sustaina® veil products, the sustainability R&D mapping tool, reduced energy intensity & related GHG emissions & increasing use of renewable energy. Owens Corning EcoTouch® insulation is a new class of high-performance residential & light commercial insulation made with a certified minimum of 30 percent post-consumer recycled content & 50 percent total recycled content, & a formaldehyde-free formulation. This combines high performance with sustainable attributes. These product qualities give us a competitive advantage in the marketplace, particularly in the green building space. Another competitive advantage is our shingle recycling program, which lowers disposal costs for our customers & helps construction projects gain LEED credits.
VII. Several key business decisions made during 2015 were a direct result of climate change influence. As mentioned above in section II., for involvement in the transition to a sustainable & clean energy economy we signed power purchase agreements (PPA) in Texas & Oklahoma totalling a 250 megawatt PPA for renewable electricity. Through these investments Owens Corning has agreed to purchase enough renewable energy to power 65,000 U.S. homes per year. This is the largest wind power purchase agreement reported by an industrial company in the world through 2015.
Also in 2015, Owens Corning carriers fueled by NG moved product 15 million miles, 7% more than the previous year. This represents 10% of our total road miles in 2015.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price of carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price of carbon

We consider Scope 1, 2 & 3 emissions, & have both internal & externally published reduction goals. We use our aligned & committed reduction goals to drive strategy & action, not an actual carbon charge such as an internal carbon tax. For use in internal decision making & risk analysis, we place an economic value on carbon emissions to help frame the challenges & opportunities in monetary, more broadly understood terms than simply tons of emissions. This includes considering the impact on our operations & our supply chain. Quantifying these added costs, in the event that a price is put on carbon in regions around the world where a current price or trading scheme is not in place, provides additional insight into our business decisions. We bracket this analysis, on the low end at $10/metric ton & a high of $60/metric ton.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations
Funding research organizations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Other: Texas Energy Code Adoption &	Support	Local engagement with State Energy & Building Professionals to either adopt or enforce energy codes;	Owens Corning has worked with NGOs like ACC, NICE and NAIMA to propose the following in the Texas

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Enforcement		Authored 2 sections, #2 and #3 of the RECOMMEDATIONS of the SPEER COMMISSION on Texas Energy Efficiency Policy	legislation, numbered as the sections in the Speer Commission Recommendations: 2. Ensure High Energy Performance in New Homes & Buildings. (2a) Improve Compliance with Building Energy Codes; (2b) Create Voluntary Builder Incentives for Homes that Exceed the Energy Code; (2c) Adopt Statewide Energy Codes As They Are Issued; 3 Enable Access to Financing for Energy Efficiency Retrofits; (3a) Adopt Commercial Property Assessed Clean Energy (C-PACE) Programs; (3b) Create a Residential Energy Efficiency Retrofit Loan Program; (3c) Expand Water Conservation Funds to Include Energy Efficiency; (3d) Make Residential PACE Financing Available
Other: Local and State Energy Codes, Gaining adoption of 2015 energy code	Support	Local engagement with State Energy & Building Professionals to either adopt or enforce energy codes; Engagement & training with local leaders, building codes officials, policy makers. Mostly at the State level.	Adopt the 2015 Energy Code, Enforce the energy codes that have been adopted.
Other: Florida Building Commission - will on-site generation be allowed for compliance with the Florida Building Code	Oppose	The Florida Building Commission is deciding whether to allow on-site renewable energy generation to count for compliance with the Florida building code. Owens Corning opposes this legislation and has acted through the North American Insulation Manufacturers Association (NAIMA) and the National Insulation Contractors' Exchange to encourage the Commission to reject the proposal.	Owens Corning, working with NAIMA and NICE, believes that allowing the unlimited on-site renewable energy generation to substitute for cost-effective, long lasting energy conversation measures is not the best solution. Solar leases accounted for more than 70 percent of home solar sales in 2014. That means a solar panel is likely to be an impermanent part of a new Florida home – providing a benefit of an uncertain quantity for an uncertain duration. In contrast, building energy conservation measures like sealing and insulation provide demonstrated energy savings for the life of the building. Allowing for the construction of a less efficient home simply because it comes with solar panels should not be the goal of the updated Florida Building Energy Code. Therefore, Owens Corning, NICE, and NAIMA urge the Commission to prohibit or tightly limit the amount of credit allowed for on-site generation for building energy code compliance.

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
NAIMA	Consistent	NAIMA works closely with worldwide manufacturers of fiber glass, rock wool & slag wool insulation products & other allied organizations to advance sustainable development through activities that promote the following as they relate to insulation: 1.Pollution reduction through increased insulation 2. Energy efficiency awareness 3. Natural resource preservation NAIMA, along with other international organizations, unite to inform government agencies, environmental building organizations, manufacturing companies, consumers & academia around the globe about the role insulation plays in energy efficient construction, the reduction of greenhouse gas emissions & mitigating climate change.	We are active on the board & committees to further these goals
RESNET	Consistent	In April 1995, the National Association of State Energy Officials & Energy Rated Homes of America founded the Residential Energy Services Network (RESNET) to develop a national market for home energy rating systems & energy efficient mortgages. RESNET's standards are officially recognized by the federal government for verification of building energy performance for such programs as federal tax incentives, the Environmental Protection Agency's ENERGY STAR program & the U.S. Department of Energy's Building America Program. RESNET standards are also recognized by the U.S. mortgage industry for capitalizing a building's energy performance in the mortgage loan, & certification of "White Tags" for private financial investors. The RESNET website is a one-stop solution where homeowners can learn about the energy audit & rating processes, & search the RESNET directory to find certified energy auditors & raters & qualified contractors & builders. To be included in the directory, these independent, unbiased professionals must complete the required energy training to meet the high standards of excellence that RESNET demands. All RESNET-certified & RESNET-qualified professionals agree to abide by the RESNET Code of Conduct.	We are active on the board & committees to further these goals
BICEP	Consistent	BICEP is an advocacy coalition of businesses committed to working with policy makers to pass meaningful energy & climate change legislation that will enable a rapid transition to a low-carbon, 21st century economy that will create new jobs & stimulate economic growth while stabilizing our planet’s fragile climate. BICEP offers a new arena for business involvement in advancing climate & energy policies to counter the far reaching risks & challenges posed by global climate change	We are a member & active supporter

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
ASHRAE	Consistent	ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society & its members focus on building systems, energy efficiency, indoor air quality, refrigeration & sustainability within the industry. ASHRAE/AIRAH JOINT RESOLUTION ON CLIMATE CHANGE acknowledges the reality of climate change & its human causes	Previously members of the board & currently an active supporter
AWEA	Consistent	The American Wind Energy Association (AWEA) is the national trade association for the U.S. wind industry – the country's fastest growing energy industry. With thousands of wind industry members & wind policy advocates, AWEA promotes wind energy as a clean source of electricity for American consumers.	We are a member & active supporter
EEBA	Consistent	A world where everyone can live in a healthy, safe, durable, energy efficient home	We are active on the board & committees to further these goals

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Our climate policy is stated on our sustainability website and is clearly in favor of reducing energy use and greenhouse gas emissions. Our policy work and engagement with trade groups is focused on these same goals, to facilitate the ease of consumers and industry professionals to employ energy efficiency and renewable energy practices in conjunction with Owens Corning or using Owens Corning's expertise and products. In addition, “engaging our impact through sustainability” is a company value. The Owens Corning company values underpin our company operations, and all decisions are made through the lens of our corporate values, including sustainability. From the standpoint of engaging with policy makers, our Government Affairs team controls all aspects of our communications and ensures that these activities are completely aligned with our climate policy. We regularly review language and activities with both external affairs and sustainability and conduct legal reviews of all external communications including letters, testimony and activities with outside advocates or NGOs.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Attachments

https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3c NAIMA Global Issues Involvement.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3a NICE letter to FLTAC 5.31.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3c About BICEP — Ceres.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3c 20090428_ashraeairah.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3c Resnet.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3a NAIMA letter to FTAC 5.31.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3c awea - what we do.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3a NICE letter to FBC 5.31.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/CC2.3a NAIMA letter to FBC 5.31.pdf

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Intensity target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 1+2 (market-based)	100%	50%	Metric tonnes CO2e per metric	2010	4676509	2020	Yes	Owens Corning as a 2020 goal to reduce its GHG intensity by 50%. We follow the World Resource Institute (WRI) GHG protocol to account for Scope 1, 2, and 3 emissions. Based on interviews with internal and

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
				tonne of product					external stakeholders, and the influence of the WBCSD Vision 2050 as well as past goals, reduction of GHG is a material topic for Owens Corning. We measure our impact through our GHG intensity goals. Our biggest contributor to this intensity is the blowing agent we use in our foam production process. By 2014, we had already exceeded our internal 2020 targets to reduce by 20% from the base year. Given this, in 2015 we announced a new 50% goal in the fourth quarter of 2015. Upstream and downstream Scope 3 emissions are excluded. Scope 3 includes only business travel.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	50	No change	0	Owens Corning recognizes that greenhouse gas (GHG) emissions are the main cause of climate change and is committed to doing its part to reduce emissions within the company as well as through our suppliers and customers. Owens Corning has a 2020 goal to reduce its greenhouse gas intensity by 50 percent. We follow the World Resource Institute (WRI) GHG protocol to account Scope 1, 2 and 3 emissions. In 2015, we are reporting a 41

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
					percent reduction in GHG intensity from our base year 2010. Going forward as a company we expect the majority of our reductions to be realized in Scope 1 and Scope 2 although we will continue to implement changes to reduce our Scope 3 emissions where appropriate. During 2015, SCS Greenhouse Gas Verification program has conducted a verification of Owens Corning's end of year 2015 emissions against the requirements of the Carbon Disclosure Project and the WRI/WBCSD GHG Protocol. The Verification Statement documents that SCS Global Services has conducted verification activities in compliance with ISO 14064-3: Specification with guidance for the validation and verification of greenhouse gas assertions. The statement also attests that SCS Global Services can provide reasonable assurance that Owens Corning's reported Scope1 and Scope 2 greenhouse gas emissions from 1 January 2015 to 31 December 2015 are in all material respects in accordance with the reporting criteria. Furthermore, SCS Global Services can provide 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 1 January 2015 to 31 December 2015 were materially misstated.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Int1	50%	82%	In 2015 Owens Corning raised its 2020 goal to reduce its greenhouse gas intensity from 20 percent to 50 percent. In 2014, we had achieved registered a reduction of 34 percent from our base year, exceeding our initial 2020 target by 14 percent five years early. This can be attributed to our diligent efforts around the reduction in our blowing agent emissions and beginning the journey of converting to a renewable energy portfolio. The 2015 reduction from base year is 41 percent.

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

Yes

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Group of products	Types of insulation materials manufactured throughout our global operations include fiberglass, extruded polystyrene (XPS) foam and mineral wool and a small subset of our roofing product line that is Energy Star rated	Avoided emissions	Other: Insulation by its nature reduces energy use along with corresponding emissions	0%	Less than or equal to 10%	For more details, please see our 2015 GRI Report under EN7.

CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	32	9445
To be implemented*	34	7831
Implementation commenced*	11	4659
Implemented*	70	34594
Not to be implemented	24	12

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	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 efficiency: Building services	Energy efficient lighting upgrades (indoor & outdoor)	2579	Scope 2 (market-based)	Voluntary	209198	595418	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.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	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 efficiency: Processes	Variable frequency drives on process fans and pumps.	5717	Scope 2 (market-based)	Voluntary	854146	721407	<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.
Energy efficiency: Processes	Purchase of meters and leak detection equipment to identify leaks, monitor and improve upon system efficiency	322	Scope 2 (market-based)	Voluntary	28890	76445	1-3 years	11-15 years	Two projects were implemented; one metering and one leak detection
Energy efficiency: Processes	V-Notched Belt Conversion on Motors	458	Scope 2 (market-based)	Voluntary	35954	49058	1-3 years	11-15 years	Two belt projects were implemented on various motors.
Energy efficiency: Building services	Men's Locker Room Hot Water Energy Upgrade	1665	Scope 1	Voluntary	17400	37000	1-3 years	11-15 years	Men's Locker Room Hot Water Energy Upgrade at an Insulation Plant
Energy efficiency: Processes	Asphalt Tank Insulation	2920	Scope 1	Voluntary	34600	173000	4-10 years	11-15 years	Asphalt Tank Insulation
Energy efficiency: Building services	HVAC System Upgrades and Replacement	213	Scope 1	Voluntary	55237	155025	1-3 years	11-15 years	Two HVAC projects were implemented in building materials plants
Energy efficiency: Processes	Compressed air compressor replacement/upgrade	1198	Scope 2 (market-based)	Voluntary	145400	529788	4-10 years	11-15 years	One compressor replacement was implemented at an

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	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
									insulation plant
Energy efficiency: Processes	Upgrade compressed air compressors with new controls	1644	Scope 2 (market-based)	Voluntary	90000	190000	1-3 years	11-15 years	Project was implemented at a Composites plant
Energy efficiency: Processes	Chiller Replacement	573	Scope 2 (market-based)	Voluntary	60223	257600	1-3 years	11-15 years	Project was implemented at a Composites plant
Energy efficiency: Processes	Replace motors with new high efficiency	79	Scope 2 (market-based)	Voluntary	18281	45000	1-3 years	11-15 years	Project was implemented at a Composites plant
Energy efficiency: Processes	Furnace side wall insulating	367	Scope 1	Voluntary	75420	40680	<1 year	11-15 years	Project is both a natural gas and electric savings implemented in a Composites plant.

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment

Method	Comment
Compliance with regulatory requirements/standards	Owens Corning has an Environmental Management System (EMS) that is implemented at 89 percent of our sites. The remaining sites are acquisitions, which we anticipate will implement the EMS system within the next year. Our EMS is based on ISO guidelines and is internally self-audited, as well as through our divisional/corporate EHS audit team. 30% of our sites are ISO certified 14001 or 18001.
Dedicated budget for energy efficiency	Owens Corning has a dedicated energy budget within each business unit that is managed by the corresponding Energy Efficiency Program Managers. The energy portfolios are created through submission of a capital request form that evaluates ROI, location, impact of CO2, MWh reductions, timing of implementation, rebate opportunities, risk, as well as the ability to propagate initiatives across other Owens Corning plants.
Employee engagement	All Owens Corning plants have designated Energy Leaders. Although this is not their full-time responsibility, they do spend a portion of their time engaging the plant in energy efficiency projects/activities, identifying energy savings opportunities, developing/scoping out projects, as well as implementing the projects. Each business unit holds monthly or bi-monthly energy calls to report YTD and annual energy intensity performance against goals, and provides a platform to not only share best practices, but discuss new, innovative technologies. Owens Corning has forward reaching Sustainability Goals that includes reductions in energy intensity and GHG, which in turn become the goals for each plant as well.
Internal price of carbon	We consider Scope 1,2 and 3 emissions, and have both internally and externally published reduction goals. We use our aligned and committed reduction goals to drive strategy and action, not an actual carbon charge such as an internal carbon tax. For use in internal decision making and risk analysis, we place an economic value on carbon emissions to help frame the challenges and opportunities in monetary, more broadly understood terms than simply tons of emissions. This includes considering the impact on our operations and our supply chain. Quantifying these added costs in the event that a price is put on carbon in regions around the world where a current price or trading scheme is not in place, provides additional insight into our business decisions. We bracket this analysis, on the low end at $10/metric ton and high of $60/metric ton.
Internal incentives/recognition programs	Owens Corning has annual global EHS Awards which are available to all employees. Two of the awards provide recognition to our employees specific to Environmental Impact Improvement and Environmental Outreach. The Environmental Impact award was granted to group of employees as well as outside consultants who spent several years designing and implementing a solution for a solar array installation at our corporate headquarters. This array will satisfy about 30% of the buildings energy needs and offset the GHG emitted from the commute of its workforce. The array is comprised of a solar canopy of nearly 8,000 panels that cover about 1,000 parking spaces. Toledo workers benefit from covered parking for their cars – keeping them out of direct sun and protecting them from rain and snow. Four electric charging stations for electric cars also were part of the project. The Environmental Outreach award was given to a group of employees who hosted a learning forum for other companies, 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. Participants were about 125 external and internal stakeholders including suppliers, community representatives, nongovernmental organizations, and students. Two panels of subject-matter experts shared approaches and best practices. Furthermore, Owens Corning recognized three different programs through the Innovation Awards program as well as two initiatives in the annual Board of Director's Cup which represent our commitment to reducing the impact on the world's resources. One of the teams recognized was accountable for executing the power purchase agreement of new installed capacity to the grid (250 MW) that makes us the largest industrial purchaser of renewable energy in the world through 2015. Finally, the Composites business has an annual contest designed

Method	Comment
	to drive participation for the Plant Energy Teams each year with cash awards with are managed by the Energy Efficiency Program Manager. This program evaluates, among other items: (1) site energy meetings with minutes generated, (2) low cost/no cost savings projects implemented, (3) kaizen events and assessments completed, (4) best practices shared across the network, (5) capital projects being implemented, and (6) energy network meetings attended.
Partnering with governments on technology development	Owens Corning opposed legislation to freeze the Ohio State Renewable Energy Standards- SB310. Opposition was expressed through letters and meetings with state representatives, other manufacturers and energy service companies also opposing SB310. SB310 was legislation to put state-wide efficiency efforts on hold. Owens Corning believed it would effectively repeal incentives for energy reduction and efficiency. It would also negatively impact programs local utilities run to trim energy consumption, and help stabilize the state's electricity grid and prices.
Other	Partnering with the Environmental Defense Fund (EDF) Climate Corps. Owens Corning has focused with the EDF Fellows to focus on reducing our environmental impact. In 2015 a fellow was placed at one of our plants in China. The fellow provided two strong program opportunities related to the cooling water system and compressed air system which have been implemented to reduce the plant's energy consumption.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	5+	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/2015 10-K.pdf	10K for the fiscal year end December 31,2015; our risks outlined clearly align with our risk responses above related to climate change
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	44+	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/10-Q Q1 2015.pdf	10Q for period ending March 31, 2015; our risks outlined clearly align with our risk responses above related to climate change
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	49+	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/10-Q Q2 2015.pdf	10Q for period ending June 30, 2015; our risks outlined clearly align with our risk responses above related to climate change
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	48+	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/10-Q Q3 2015.pdf	10Q for period ending September 30, 2015; our risks outlined clearly align with our risk responses above related to climate change
In voluntary communications	Underway - previous year attached	ALL	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/gri-report.pdf	Location: Sustainability.owenscorning.com Attached is our latest 2015 GRI sustainability report: Owens Corning has published a corporate sustainability report and updated website since 2006. There are links to our previous GRI reports available at this location as well.

Publication	Status	Page/Section reference	Attach the document	Comment
In voluntary communications	Underway - previous year attached	ALL	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/Report_Sustainability_071515.pdf	Location: Sustainability.owenscorning.com Attached is our latest 2015 sustainability report - The Story Behind the Results This report features more information and detail about the Owens Corning Sustainability Journey.
In voluntary communications	Underway - previous year attached	ALL	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC4.1/2014 Sustainability Highlights PDF.pdf	Location: Sustainability.owenscorning.com Attached is our latest 2014 Sustainability Highlights Report: This annually published integrated performance document includes our progress against our 2020 Environmental Sustainability goals, as well as sales, asset, debt and equity numbers from our 10-K. We also share additional metrics related to the three pillars of sustainability - Economic, Social and Environmental.

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Air pollution limits	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.	Reduction/disruption in production capacity	1 to 3 years	Direct	About as likely as not	Medium-high	$5 million - $20 million	Our management action plan is to proactively expend R&D 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	$1 million - $3 million

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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 has evaluated and implemented changes in our foam process which provide for lower GWP.	
Air pollution limits	Broad and gradual tightening of limits on emissions by federal governments, the EPA, or State run EPAs could impact	Reduction/disruption in production capacity	>6 years	Direct	Likely	Low	$1 million - $5 million	Our management action plan is to proactively expend R&D resources to deliver revised product	up to $5 million

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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 CO2 regulations for the majority of our businesses. Aggressive CO2 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.							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, NC, with state-of-the-art equipment that will add manufacturing flexibility to produce the company's new Sustaina® non-woven glass fiber fabric. This	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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,	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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).	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate drivers	Many of Owens Corning's business activities involve	Reduction/disruption in production capacity	1 to 3 years	Direct	More likely than not	Low	Estimated financial implication is $5 million to	Insurance, loss prevention and business continuity programs are in	Up to $2 million for administration of programs and for physical loss

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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.						$10 million per incident net of insurance recovery	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	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

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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, also 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	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								shingles. These regional shingles are important to mitigate the impact of damage to a particular plant. In 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.	

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Many of Owens Corning's products are made from heavy manufacturing processes. While Owens Corning	Other: Reduction in Sales	Up to 1 year	Direct	About as likely as not	Low	$1 million to $5 million. Negative public perceptions of Owens Corning's products and	Our Sustainability organization actively and broadly promotes our company's stand for sustainability in the community,	Up to $5 million. Owens Corning invests in the communities where we operate at the plant level, corporately, and

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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.						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.	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 clearly communicating 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	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.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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 Oct. 30, in conjunction with the commissioning of the solar array. The forum focused on renewable energy & industrial scale energy efficiency. Participants were about 125 external & internal stakeholders including suppliers, community representatives, NGOs, & university students. Two panels of subject-matter experts shared approaches & best practices. Feedback from the event was outstanding. Owens Corning	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								demonstrated its willingness to advance the common good toward renewable energy and energy efficiency.	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Product efficiency regulations and standards	More aggressive building codes and regulations regarding energy	Increased demand for existing products/services	Up to 1 year	Direct	More likely than not	Medium	Up to $200 million	Owens Corning actively lobbies the U.S. DOE and other legislative bodies through its Governmental Affairs organization for increased energy conservation requirements.	Up to $1 million

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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.							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 & experience. In 2015, we partnered with builders throughout the US and Canada who are building in a wide variety of climates, regions & 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	

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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. http://www.zeroenergy.ca/press-release/canadian-net-zero-energy-home-builders-recognized-for-contribution-to-industry-changing-demonstration-project/	

CC6.1b

Please describe the inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Demand for products in our roofing business is generally driven by both residential repair and remodeling	Increased demand for existing products/services	Up to 1 year	Direct	About as likely as not	Medium	Up to $100 million	Owens Corning has a strong network of facilities throughout the United States. Through sophisticated	$0 incremental management costs. Increased freight costs are easily passed through

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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.							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 which allow more efficient service during storm surge demand, more flexibility for multiple locations, and easy inventory management. A	in price when serving storm ravaged areas.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								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.	

CC6.1c

Please describe the inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	As the awareness of environmental deterioration	Increased demand for existing	Up to 1 year	Direct	More likely than not	Medium	Up to $50 million	Owens Corning recognizes the importance of	Up to $1 million

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	increases, Owens Corning's products become more important to consumers and to builders who market energy efficient structures. Our products are significant to the reduction of GHG from buildings. Because of this, Owens Corning stands to benefit from the reputation of promoting sustainability, as consumers concerned with climate change and the environment are likely to prefer Owens Corning products over those of our competitors.	products/services						sustainability & has embedded building science professionals into the business. We understand the impacts of our products & aim to innovate solutions that provide positive impacts on the building envelope. Our sustainability organization & our sales force actively & broadly promote our company's stand for sustainability & trains professionals on how to achieve maximum environmental benefits using our products. The company is a significant user of recycled content. Additionally, we strive to reduce the energy usage & GHG emissions from producing our products while tracking avoided	

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								emissions from product usage. In 2015 Owens Corning became a founding member of the Net Positive Project, a cross-sector coalition that aims to expand the number of companies that go beyond reducing their negative sustainability impacts to contribute in a “net positive” way to society, the environment, & the global economy. The project will develop practices & tools companies can use to quantify, assess, communicate, & enhance their positive impacts on society & the environment. It will guide companies to reduce their negative impacts or footprints. It also will support efforts that grow the	

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								positive impacts or handprints. Expanding our impact through sustainability is one of our core values. To bring this to life, we want to operate as a net positive company. Our positive economic, social, & environmental impact should be larger than our negative impact.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

CC6.1a http://www.nrcan.gc.ca/energy/funding/current-funding-programs/eii/16140 CC6.1a http://www.zeroenergy.ca/ CC6.1b http://www.owenscorning.com/uploadedfiles/dms/roofing/reprint_rc0714_madeusa2.pdf CC6.1c http://www.netpositiveproject.org/#3rdPage

Attachments

https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC6.ClimateChangeOpportunities/CC6.1c Net-Positive-Project-press-release-060716.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC6.ClimateChangeOpportunities/CC6.1c Net_Positive_Project_One_Sheet.pdf
https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC6.ClimateChangeOpportunities/CC6.1b reprint_rc0714_madeusa2.pdf

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Fri 01 Jan 2010 - Fri 31 Dec 2010	3185846
Scope 2 (location-based)	Fri 01 Jan 2010 - Fri 31 Dec 2010	1478370
Scope 2 (market-based)	Fri 01 Jan 2010 - Fri 31 Dec 2010	1478370

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
HFCs	IPCC Fourth Assessment Report (AR4 - 100 year)
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)
Other: HCFC	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Diesel/Gas oil	73.96	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Motor gasoline	70.22	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Coke oven coke	93.9	Other: kg/MMBtu	The Climate Registry - General Reporting Protocol USA Industrial Sector 2015 http://www.theclimateregistry.org/wp-content/uploads/2015/04/2015-TCR-Default-EF-April-2015-FINAL.pdf
Kerosene	75.2	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.

Fuel/Material/Energy	Emission Factor	Unit	Reference
Liquefied petroleum gas (LPG)	61.71	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Natural gas	53.06	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Distillate fuel oil No 1	73.25	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Distillate fuel oil No 2	73.96	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Distillate fuel oil No 6	75.1	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Propane	62.87	Other: kg/MMBtu	Final Rule (40 CFR 98) - Industrial Sector 2013.
Electricity		lb CO2e per MWh	US Locations: eGRID 2015 (w/2012 data) - AKA eGRID2012. International Locations: International Energy Agency (IEA) CO2 Emissions from Fuel Combustion 2015-Year 2013

Further Information

Page: CC8. Emissions Data - (1 Jan 2015 - 31 Dec 2015)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

2340849

CC8.3

Does your company have any operations in markets providing product or supplier specific data in the form of contractual instruments?

Yes

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
1348238.53	1341609.41	Owens Corning's GHG emissions were verified by SCS Global Services in 2015. Their statement reads: This Verification Statement documents that SCS Global Services has conducted verification activities in compliance with ISO 14064-3: Specification with guidance for the validation and verification of greenhouse gas assertions. This statement also attests that SCS Global Services can provide reasonable assurance that Owens Corning's reported Scope1 and Scope 2 greenhouse gas emissions from 1 January 2015 to 31 December 2015 are in all material respects in accordance with the reporting criteria. Furthermore, SCS Global Services can provide 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 1 January 2015 to 31 December 2015 were materially misstated.

CC8.4

Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	Less than or equal to 2%	No Sources of Uncertainty	Owens Corning for the last three years has undergone an extensive and rigorous process to get its Scope 1 emissions certified by a third party auditor. This was conducted with reasonable assurance of Owens Corning's 2015 emissions 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. We state no sources of uncertainty as the accuracy range (or percentage of confidence) on our emissions have been stated at 99.9% by a third party provider.
Scope 2 (location-	Less than or equal to 2%	No Sources of Uncertainty	Owens Corning for the last three years has undergone an extensive and rigorous process to get its Scope 2 emissions certified by a third party auditor. 2015 reporting year was the first year that Owens Corning

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
based)			completed verification under the Revised Scope 2 Guidance from the GHG Protocol (January 2015). The verification was conducted with reasonable assurance of Owens Corning's 2015 emissions 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. We state no sources of uncertainty as the accuracy range (or percentage of confidence) on our emissions have been stated at 99.9% by a third party provider.
Scope 2 (market-based)	Less than or equal to 2%	No Sources of Uncertainty	Owens Corning for the last three years has undergone an extensive and rigorous process to get its Scope 2 emissions certified by a third party auditor. 2015 reporting year was the first year that Owens Corning completed verification under the Revised Scope 2 Guidance from the GHG Protocol (January 2015). The verification was conducted with reasonable assurance of Owens Corning's 2015 emissions 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. We state no sources of uncertainty as the accuracy range (or percentage of confidence) on our emissions have been stated at 99.9% by a third party provider.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC8.6a/CDP-Entity_OC_EY2015_VerificationStatement_V1-0_052516.pdf	Pages 1-2; Verification Opinion is on page 2	ISO14064-3	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC8.7a/CDP-Entity_OC_EY2015_VerificationStatement_V1-0_052516.pdf	Pages 1-2	ISO14064-3	100
Market-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC8.7a/CDP-Entity_OC_EY2015_VerificationStatement_V1-0_052516.pdf	Pages 1-2	ISO14064-3	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Other: Global Energy Sources	Energy consumption amount for all energy sources are verified in compliance with ISO 14064-3. The statement attests that SCS Global Services provides reasonable assurance.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Belgium	246
Brazil	81347
Canada	180763

Country/Region	Scope 1 metric tonnes CO2e
Chile	65
China	442706
France	76753
India	174206
Italy	51668
Japan	15639
South Korea	44751
Mexico	136235
Netherlands	19194
Russia	37191
Spain	72
United Kingdom	2710
United States of America	1077305

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division
By GHG type

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Corporate	9575
Foam	1193278
Insulation Systems Business	355002
Composites Solutions Business	642039
Roofing & Asphalt	140954

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	1148995
CH4	498
N2O	650
HFCs	634106
Other: HCFC	556599

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Belgium	317	317	1593	0
Brazil	9820	9820	73126	0
Canada	39507	39507	249382	0
Chile	80	80	166	0
China	104287	104287	146494	0
France	5572	5572	157383	0
India	71177	71177	89933	0
Italy	21403	21403	62435	0
Japan	11975	11975	20951	0
South Korea	39267	39267	101937	0
Mexico	88582	88582	174914	0
Netherlands	9094	9094	20112	0
Russia	24947	24947	56779	0
Singapore	729	729	1600	0
Spain	466	466	1886	0
United Kingdom	3097	3097	6749	0
United States of America	917920	911290	1700475	0

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)
Composites Solutions Business	616551	596566
Roofing and Asphalt	64526	61087
Corporate	86532	86532
Foam	27263	26153
Insulation Systems Business	553368	571271

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	Energy purchased and consumed (MWh)
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

5541069

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	5287092
Distillate fuel oil No 6	102346
Coke oven coke	68996
Propane	36978
Liquefied petroleum gas (LPG)	27742
Distillate fuel oil No 2	10626
Diesel/Gas oil	6061
Kerosene	202
Motor gasoline	1026

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Comment
Direct procurement contract with a	59523	In 2013 Owens Corning announced the developed of 2.7-megawatt solar generation project

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Comment
gridconnected generator or Power Purchase Agreement (PPA), supported by energy attribute certificates		that would supply renewable electricity to the Delmar, New York, site. For 2015, this installation provided nearly 6% of the electricity required; The solar array system installed at the Toledo, Ohio, world headquarters will satisfy about 30 percent of the building's energy needs. In addition, the project is a highly visible commitment to renewable energy.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
2865916	2865916	0	0	0	All electricity consumed at Owens Corning is purchased; onsite generated electricity is purchased from PPA agreements.

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	8.3	Decrease	Reductions directly attributable to the use of GHG blowing agents with lower GWP factors; improvement in energy efficiency at plants with lower energy use per unit of product produced. In 2014 Scope 2 market-based was 1,480,068 MT and Scope 1 was 2,535,719 MT, for a total of 4,015,787 MT. In 2015 Scope 2 market-based was 1,341,609 MT and Scope 1 was 2,340,849 MT for a total of 3,682,458 MT. All measurements are in MT CO2e. Dividing the decrease between 2014 and 2015 (333,329 MT) over the 2014 total of 4,015,787 gives a decrease of 8.3% in MT CO2e. ((4,015,787-3,682,458)/4,015,787)*100=8.3% decrease
Divestment			
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
667.35	metric tonnes CO2e	5518000000	Market-based	10	Decrease	Improved our GHG footprint, utilizing normalized sales, through several emissions reductions activities. We were able to reduce the GHG emissions intensity of our manufacturing facilities while also reducing our absolute emissions. The primary driver of the reduction was a modification of the blowing agent used in some of our Foam plants. In addition, the plants have been able to reduce the energy used per unit of production. Various projects were implemented across the composites and insulation business to enable the reduction of the GHG emissions. The descriptions of the projects are provided section 3.3b, which contributed to the reduction in our combined Scope 1 and 2 emissions.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
253	metric tonnes CO2e	full time equivalent (FTE) employee	14569	Market-based	9	Decrease	Despite an increase in FTE, we were able to reduce GHG emissions. Our emissions reductions activities in 2015 included energy efficiencies and reduced GWP blowing agent in our foam products.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
European Union ETS	Thu 01 Jan 2015 - Thu 31 Dec	129937	0	148168	Facilities we own and

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
	2015				operate
Other: Quebec Cap and Trade	Thu 01 Jan 2015 - Thu 31 Dec 2015	19090	0	127138	Facilities we own and operate

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

Owens Corning implemented a global strategy to reduce emissions of greenhouse gas across our operations. This strategy is represented in our greenhouse 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, while also implementing low cost/no-cost solutions to drive reductions. Additionally in prior years we have reorganized operations by loading and upgrading the most efficient assets. Owens Corning has a long-term strategy to manage its CO2 allowances focused on compliance with regulations and then driving cost reductions while taking advantage of market opportunities in areas where trading schemes are in existence.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance

Further Information

CC13.1a: South Korea's emissions trading scheme is currently being evaluated by Owens Corning.

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	3831652.15	Scope 3 emissions for purchased goods and services were determined using an EIO-LCA based method. The calculation was performed using the EIO-LCA on-line tool developed by Carnegie Mellon University. The respective NAICS manufacturing industry sectors associated with	100.00%	1. http://investor.owenscorning.com/SEC-filings/2016/default.aspx?FormGroups=14 2. http://www.eiolca.net/cgi-bin/dft/use.pl 3. https://www.census.gov/eos/www/naics/

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Owens Corning's three major business operations were identified, and Net Sales figures found in the 2016 Owens Corning Form 10-K Annual Report2 were used as indicators of and inputs for economic activity in each of the three respective sectors.		
Capital goods	Relevant, calculated	98477.06	Determination of Scope 3 emissions associated with capital goods expanded on the methodology used for that of Purchased goods and services. Primary data was collected internally on 2015 total spend for capital expenditure. The spend data was categorized into five categories followed by identification of the NAICS industry sector associated with each category of spend data. Total spend in each category was used as the indicator of economic activity and used as the input in the EIO-LCA on-line tool.	100.00%	
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	1901164.09	Owens Corning used the same method as Better Business Better plants to find the portion of primary electric power that is Scope 3 rather than consumed energy. We performed our standard primary energy calculation and then backed out the portion that was related to consumed/metered electricity. The remaining amount was the portion of losses that were not included in Scope 1 or 2.	100.00%	
Upstream transportation and distribution	Relevant, calculated	131937.83	Primary data was collected internally from Owens Corning logistic analysts for 2015 total spend associated with the inbound transportation of all purchased materials. Spend data was categorized based on the mode of transportation (i.e., passenger ground, tuck, rail, and water). After determining the NAICS industry sector for each of the four modes of transportation, total spend in each transportation	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			category was used as the indicator of economic activity and used as the input in the EIO-LCA on-line tool.		
Waste generated in operations	Not relevant, explanation provided		Not Applicable as listed as not relevant		Our waste streams, which are primarily forms of glass, are inert and have negligible emissions.
Business travel	Relevant, calculated	10858.62	Includes commercial air travel and rental car emissions. Methodology: Owens Corning is using Climate Leaders protocol for calculating GHG emissions related to corporate travel.	100.00%	
Employee commuting	Relevant, calculated	37460.44	Owens Corning uses a simplified version of the Scope 3 Protocol's average-data method to calculate employee commuting emissions. We use the U.S. EPA Greenhouse Gas Emissions from a Typical Passenger Vehicle (http://www.epa.gov/otaq/climate/documents/420f14040a.pdf) to determine an estimate of 411 grams of CO2 per mile. Starting with the Worldmapper Commuting Time By Country (http://www.worldmapper.org/display.php?selected=141) data, we multiply those times by the number of Owens Corning employees by country to estimate our employees average round-trip commuting distance in miles. The corporate average round-trip commuting distance is multiplied by the OECD average number of days worked per year (taken from http://stats.oecd.org/index.aspx?DataSetCode=ANHRS) and Owens Corning's annual employee count. Using this methodology, Owens Corning's estimated 2015 employee commuting GHG emissions of 37,460 MT CO2. Because	100.00%	Because this is a high level estimated calculation, Owens Corning assumes that these calculated emissions for employee commuting are overstated, since we assume that all employees are in a single car commuting daily. This does not take into account telecommuting, public transportation, carpooling, business travel days that would be accounted for separately, or other methods of commuting.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			this is a high level estimated calculation, Owens Corning assumes that these calculated emissions for employee commuting are overstated, since we assume that all employees are in a single car commuting daily. This does not take into account telecommuting, public transportation, carpooling, business travel days that would be accounted for separately, or other methods of commuting.		
Upstream leased assets	Not relevant, explanation provided		Not Applicable as listed as not relevant		All our relevant leased assets have been accounted for under Scope 2 emissions. We account for both their estimated electricity usage and estimated GHG Emissions based on the square footage of space while utilizing factors from the Energy Star Portfolio Manager (1) Energy Star Portfolio Manager - Energy Star Score for Warehouses in the United States for warehouses, (2) Energy Star Portfolio Manager - Energy Use in Office Buildings for building types of office and other. The data is subsequently calculated using factors from the US EPA EGRID and the 2006 IPCC International Fuel-based Electricity Emission Factors for CO2 factors as appropriate.
Downstream transportation and distribution	Relevant, calculated	144538.17	Primary data was collected internally from Owens Corning logistic analysts for 2015 total spend associated with the outbound distribution and transportation for finished goods. For this calculation, Scope 3 emissions were only calculated for the roofing and asphalt business. Transportation spend	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			data was allocated entirely to truck transportation as the mode of distribution for a more conservative approximation. Total transportation spend was used as the indicator of economic activity and used as the input in the EIO-LCA on-line tool.		
Processing of sold products	Relevant, calculated	431582.43	Scope 3 emissions were calculated and determined for Owens Corning's composites business, which primarily manufactures intermediate products. These glass fibers are, primarily, used by customers in order to make glass-fiber reinforced plastic (GFRP) materials. Calculation of Scope 3 emissions involved identifying the NAICS sector associated with GFRP manufacturing followed by developing a process scaling-factor based on the economic flow of the NAICS sector for glass fiber manufacturing within the sector for GFRP manufacturing.	100.00%	
Use of sold products	Not relevant, explanation provided		Not Applicable as listed as not relevant; LCA according to ISO 14040-44.		None of our products have end use energy consumption. The impact from the use of sold products is avoided emissions. Our building insulation products sold in North America during the calendar year 2015 were estimated to reduce the GHG emissions for home owners by approximately 9.5 million metric tons CO2-e a year and 573 million metric tons over the building's lifetime.
End of life treatment of sold products	Relevant, calculated	144583.61	Scope 3 emissions associated with the End-of-Life (EoL) of fiberglass insulation and XPS insulation products manufactured in 2015 were calculated. EoL emission factors	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			were developed from cradle-to-grave LCAs on Owens Corning™ fiberglass insulation and XPS insulation. The 3rd party verified LCAs were internally conducted for these products in 2012 and 2013, respectively. These factors were used in conjunction with 2015 production volumes for the two insulation materials to determine the Scope 3 emissions when the production volume quantities are disposed as waste-to-landfill. Scope 3 EoL emissions were determined for Owens Corning insulation manufacturing operations, and, more specifically, only for fiberglass and XPS insulation.		
Downstream leased assets	Not relevant, explanation provided		Not Applicable as listed as not relevant		Owens Corning does not have any downstream leased assets
Franchises	Not relevant, explanation provided		Not Applicable as listed as not relevant		Owens Corning has a small basement finishing system franchise business that is immaterial to the company.
Investments	Not relevant, explanation provided		Not Applicable as listed as not relevant		Owens Corning is not a private or public financial institution. All investments in new businesses are accounted for under Scope 1 or Scope 2.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/32/14132/Climate Change 2016/Shared Documents/Attachments/CC14.2a/CDP-Entity_OC_EY2015_VerificationStatement_V1-0_052516.pdf	Verification Opinion is on page 2 of 2.	ISO14064-3	100

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output	2	Increase	Since the GHG emissions attributable to purchased goods and services have been calculated using eio-lca methods, the GHG emissions increase from this source is driven by the increase in net sales of the insulation and roofing business segments as reported in the Form 10-K Annual Report.
Capital goods	Change in output	8	Decrease	The decrease in emissions associated with capital goods is attributed to the acquisition value cost decrease of capital goods
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	23	Decrease	We previously only included mobile energy sources. We have changed our methodology to calculate the different in primary electricity and metered electricity consumed. We made an adjustment to reflect 2 comparable years of data. In 2015 we implemented emissions reduction activities, including over 70 energy reduction projects that will deliver an estimated annual savings of over 92,000 MWH and 34,500MT of GHG emissions. This amount includes capital programs as well as low cost/no cost initiatives.
Upstream transportation & distribution	Change in output	7	Decrease	The decrease in emissions is due to the decrease in annual transportation costs of input materials
Business travel	Change in output	15	Increase	Both air travel and travel by car increased between years, causing greater emissions.
Employee commuting	Change in output	3	Increase	The primary driver in the increase in emissions is the increase in employees from 13960 to 14569 between years.
Downstream transportation and distribution	Change in output	13	Increase	The increase in emissions is due to the increase in distribution transportation costs for the roofing business segment
Processing of sold products	Change in output	2	Decrease	Scope 3 emissions were calculated and determined for Owens Corning's composites business, which primarily manufactures intermediate products. These glass fibers are, primarily, used by customers in order to make glass-fiber reinforced plastic (GFRP) materials. Calculation of Scope 3 emissions involved identifying the NAICS sector associated with GFRP manufacturing followed by developing a process scaling-factor based on the economic flow of the NAICS sector for glass fiber manufacturing within the sector for GFRP manufacturing. The decrease in GHG emissions is directly correlated to the decrease in the net sales of the composites business segment as reported in the Form 10-K Annual Report.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
End-of-life treatment of sold products	Change in output	1	Decrease	Scope 3 emissions associated with the End-of-Life (EoL) of fiberglass insulation and XPS insulation products manufactured in 2015 were calculated. EoL emission factors were developed from cradle-to-grave LCAs on Owens Corning™ fiberglass insulation and XPS insulation. The 3rd party verified LCAs were internally conducted for these products in 2012 and 2013, respectively. These factors were used in conjunction with 2015 production volumes for the two insulation materials to determine the Scope 3 emissions when the production volume quantities are disposed as waste-to-landfill. Scope 3 EoL emissions were determined for Owens Corning insulation manufacturing operations, and, more specifically, only for fiberglass and XPS insulation. The decrease in GHG emissions is due to the decrease in the production volume of insulation products that have a high GWP at the end-of-life.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagement and measures of success

Owens Corning's method of engagement is based on our four part sustainability strategy.

1. Operations Sustainability – We are committed to reducing our footprint. 2020 goals for primary energy, greenhouse gas, fine particulate matter, toxic air emissions, & waste-to-landfill & water reductions were established from our 2010 baseline. These areas were considered material by our stakeholders.
2. Product & Supply Chain Sustainability – We have established goals around engaging & improving our supply chain in the area of sustainability & working to

increase the transparency of our products life cycle. These goals include transparent communication of the total life cycle assessment of all core products by 2015 & reducing the GHG emissions in its supply chain through conversions from diesel to natural gas in materials transportation. These areas were also considered material by our stakeholders.
3. Innovation & Collaboration to Deliver Energy Efficiency & Durable Material Solutions at Scale - Collaboration on developing high performance buildings is an area where we will continue to work on code advancement for energy efficiency. We partner with our customers to improve the performance of new & existing buildings, engage with non-profits on energy efficiency & climate progress across the economy, & work with our customers on energy-efficient product innovation. This aligns with increasing our handprint, product responsibility & social responsibility.
4. Safety, Health, Employee Engagement & Community Vitality – Living safely is a way of life at Owens Corning, not just at work but at home as well. Our commitment to safety is unconditional. We have found that a facility operating well from a safety standpoint, & with engaged employees, is likely to excel in quality, service & operating cost. We lead from safety & our other business metrics follow. It is important to us that we are engaged in our communities as well, through volunteering, financial support & leadership. This strategy aligns with what our stakeholders want in a socially responsible company.

We prioritize engagement based on our materiality matrix and the impact on our four part strategy. Based on this strategy we have taken the following actions:

(1) In conjunction with Product & Supply Chain Sustainability we have a Supplier Code of Conduct which has expectations for environmental performance, including GHG & Climate Change Initiatives. Each year we ask our top tier suppliers to complete a survey indicating compliance with our Code of Conduct. Representatives from our top strategic & critical suppliers gather at our Annual Supplier Day for a full-day of training, top-supplier awards & business strategy & conditions updates from senior management. A similar event is held for our transportation providers. We work with contracted upstream & downstream transportation service providers to improve fuel efficiency & reduce emissions. All service providers are asked to be USEPA's SmartWay Certified. We asked all fleet companies to engage on a fuel switch (diesel to natural gas) initiative to bring about energy efficiency & reductions of GHG & other transport emissions.

(2) Aligning with Operations Sustainability, we installed a solar array at our world headquarters. This array will satisfy about 30% of the buildings energy needs, while environmentally it offsets the equivalent GHG emitted from our workforce commute. The array is comprised of a solar canopy of nearly 8,000 panels that cover about 1,000 parking spaces. Additionally we held a learning forum for other companies focused on renewable energy & industrial scale energy efficiency. Participants were about 125 stakeholders including suppliers, community representatives, NGOs, & university students. Two panels of subject-matter experts shared approaches & best practices.
(3) As a commitment to our Innovation & Collaboration portion of the strategy, we work regularly with our customers & influencers to the building industry to build more efficient & lower impact homes & buildings. We started this program with NewTown Builders & have grown it to include other builders, such as Quail Homes. Public case studies are available for these initiatives at https://www.highperformancebuildingexchange.com/. Success in these initiatives is measured through growing engagement with builders.

Owens Corning measures success on an ongoing basis during monthly meetings of the Sustainability leadership team, during which the team reviews performance against metrics including % of suppliers completing supplier surveys, large scale GHG reduction programs, conversion of NA transportation miles to natural gas, and improved supplier segmentation. These reviews ensure Owens Corning is focused on the programs that have the largest impact that matter to our stakeholders and the world. Our goals performance can be found at http://sustainability.owenscorning.com/journey/2020-goals/.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend (direct and indirect)	Comment
1084	87%	Owens Corning suppliers are weighted and scored accordingly on impact and risk (low to high) resulting in four quadrant segmentation defined as Critical, Collaboration, Transactional, and Constraint.

CC14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
Use in supplier scorecards	Owens Corning has an integrated supply chain assessment through a supplier survey every year to manage the impact of our suppliers. Key components of the survey include traceability, transparency, measuring the impact and collaborating with suppliers. The supplier survey gives us the opportunity to work with suppliers and stakeholders collaboratively to embed sustainable sourcing practices. 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 use these strategic data in making our 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. We believe that every supplier should have sustainability goals as part of their performance objectives to utilize the index to measure progress against those goals. Based on suppliers' responses, we assess relative supplier risk for prioritizing supply chain monitoring and supplier engagement resources. Supply chain transparency has helped us to measure progress of our suppliers, foresee risks and identify opportunities for partnerships to improve social, environmental and economic results
Identifying GHG sources to prioritize for reduction actions	Through the use of LCA modeling tools, we can generally quantify our upstream GHG emissions. In order to more specifically pinpoint where reductions can be made, we are using the LCA models created for particular products and will be engaging with the suppliers of those raw materials to identify future actions in addition to the supplier scorecards discussed above.

CC14.4d

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Frank O'Brien-Bernini	Vice President & Chief Sustainability Officer	Chief Operating Officer (COO)

Further Information

CDP 2016 Climate Change 2016 Information Request