

W.R. Grace & Co. - Climate Change 2020

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

W. R. Grace & Co. is engaged in the production and sale of specialty chemicals and specialty materials on a global basis through two reportable business segments: Grace Catalysts Technologies, which includes catalysts and related products and technologies used in refining, petrochemical and other chemical manufacturing applications; and Grace Materials Technologies, which includes specialty materials, including silica-based and silica-alumina-based materials, used in consumer/pharma, chemical process, and coatings applications.

W. R. Grace & Co. delivers value through performance. Our catalysts and specialized silicas improve the products and processes of many of the world's best companies. Through world-class knowhow, collaboration, and experience, we help customers in 70 countries achieve some of their most important goals, from high-performing products and high-productivity manufacturing, to improved efficiency, sustainability and profitability.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2019	December 31 2019	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Brazil
Canada
China
Germany
Malaysia
Philippines
Republic of Korea
Spain
Sweden
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Please select

Bulk inorganic chemicals

Please select

Other chemicals

Specialty chemicals

Other, please specify (Specialty Materials)

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	The Corporate Responsibility Committee assists the Company's Board of Directors and management in addressing the Company's responsibilities as a global corporate citizen (including its responsibilities to its various stakeholders, such as shareholders, customers, employees and the communities in which the Company operates). The Committee addresses the Company's responsibilities in a wide range of areas, including affirmative action, equal employment opportunity and diversity initiatives; corporate contributions and community service programs; corporate training programs; sustainability; environmental, health and safety matters, and climate-related issues as they rise to the level of importance that would have a substantive impact on the operations or finances of the company.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
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Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy	<Not Applicable>	The Corporate Responsibility Committee in consultation with management and/or other Committees of the Board: (a) evaluate the Company's procedures, programs, policies and practices with respect to its responsibilities as a global corporate citizen, including the review and development of strategy with respect to climate and its impact on operations and (b) in appropriate circumstances, recommend the amendment of the foregoing and/or the adoption of new procedures, programs, policies and/or practices.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Senior Vice President Government Relations and Environment, Health, and Safety)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

The Senior Vice President Government Relations and Environment, Health, and Safety is an officer level position with direct reporting to the CEO, Board of Directors, and oversight of all Environmental, Health, and Safety programs at Grace. This position is responsible for the strategic development, planning, and oversight of program execution of all climate related issues throughout the organization.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Other C-Suite Officer	Monetary reward	Behavior change related indicator	Other C-Suite Officer is defined as Senior Vice President Government Relations and Environment, Health, and Safety. Performance based incentives are behavior change related indicators to include increased sustainability reporting capabilities across all corporate support functions and operational aspects of the corporation; Organizational alignment and reporting to disclosure frameworks such as Carbon Disclosure Project (CDP) and the Sustainability Accounting Standards Board (SASB); and the integration of sustainability practices within our global functions.
Business unit manager	Monetary reward	Emissions reduction project Energy reduction project Energy reduction target Efficiency project Efficiency target	The business unit manager is defined as the Director of Integrated Supply Chain (ISC) who has oversight of both operations and supply chain functions within Grace. Annual performance incentives for business unit managers include project based and target based incentives for emissions, energy reduction, and efficiency. Projects span all aspects of operations and supply chain including capital, procurement, and logistics projects and are focused on achieving performance targets including but not limited to emissions reduction, energy reduction, and efficiency. Scope of targets incentivized cover global operations with specific targets cascaded to Facilities Managers and EHS Managers.

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Facilities manager	Monetary reward	Emissions reduction project Energy reduction project Energy reduction target Efficiency project Efficiency target	Facility Managers have operational control over all production units within the boundary of a facility. Facilities managers are accountable for identifying targets and implementing projects scoped to their facility to meet cascaded targets from the Director of ISC. Performance is assessed annually against project delivery and facility specific targets. Emissions reduction projects may include the installation of combined heat and power systems to meet stricter emissions guidelines. Energy Reduction Projects may include the replacement of old equipment like air compressors, insulation of process equipment, or lighting for more energy efficient equipment. Efficiency projects include debottlenecking and process optimization that reduces scope 1, 2, and 3 emissions by reducing natural gas, electricity, or raw material inputs.
Process operation manager	Monetary reward	Emissions reduction project Energy reduction project Energy reduction target Efficiency project Efficiency target	Process operation managers have operational control over specific production lines within a facility and are responsible for the tactical day to day operations. Process operation managers identify and implement the emissions, energy and efficiency projects designed to meet relevant targets cascaded from Facilities Managers. Performance is assessed annually against project milestones and targets. Emissions reduction projects may include the modification or installation of new process equipment, pollution control devices, or raw material substitution leading to reduced emissions. Energy Reduction Projects may include the replacement of old equipment like air compressors, insulation of process equipment, or lighting for more energy efficient equipment. Efficiency projects include debottlenecking and process optimization / modification that reduces scope 1, 2, and 3 emissions by reducing natural gas, electricity, or raw material inputs.
Environmental, health, and safety manager	Monetary reward	Emissions reduction project Energy reduction project Energy reduction target Efficiency project Efficiency target	EHS Managers have oversight of and operational control over Environment, Health, and Safety programs within the operational boundaries of a facility. EHS Managers are accountable for ensuring facility compliance with regulatory permits including emissions reduction and minimization as well as cascaded targets from Facilities Manager. Performance against regulatory driven targets are driven by regulatory timelines but do not exceed annual assessment. Performance against cascaded targets and associated projects occurs on an annual basis. Project performance resulting from internally cascaded goals or external regulatory drivers spans emissions reduction, energy reduction, and efficiency based projects. Emissions reduction projects may include the installation of combined heat and power systems to meet stricter emissions guidelines. Energy Reduction Projects may include the replacement of old equipment like air compressors, insulation of process equipment, or lighting for more energy efficient equipment. Efficiency projects include debottlenecking and process optimization that reduces scope 1, 2, and 3 emissions by reducing natural gas, electricity, or raw material inputs.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

No

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	Grace evaluates its risks and opportunities with respect to climate change according to three separate time scales: Short-Term (5 years), Medium-Term (5 to 10 years), and Long-Term (10+ years).
Medium-term	5	10	Grace evaluates its risks and opportunities with respect to climate change according to three separate time scales: Short-Term (5 years), Medium-Term (5 to 10 years), and Long-Term (10+ years).
Long-term	10		Grace evaluates its risks and opportunities with respect to climate change according to three separate time scales: Short-Term (5 years), Medium-Term (5 to 10 years), and Long-Term (10+ years).

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

At this time, W.R. Grace & Co. recognizes a ‘substantive impact’ in regard to climate-related issues as one that may significantly affect our profitability or business strategy. For example, risks associated with increased government regulations to limit carbon dioxide and other greenhouse gas emissions as a result of concern over climate change may result in increased compliance costs, capital expenditures, and other financial obligations for us. We rely on natural gas, diesel fuel and electricity in the manufacturing and distribution of our products. Legislation or regulation affecting these inputs could affect our profitability. In addition, climate change could affect our ability to procure needed commodities at the costs and in quantities we currently experience and may require us to make additional unplanned strategic changes or capital expenditures.

C2.2g

(C2.2g) Why does your organization not have a process in place for identifying, assessing, and responding to climate-related risks and opportunities, and do you plan to introduce such a process in the future?

	Primary reason	Please explain
Row 1	We are planning to introduce a climate-related risk management process in the next two years	Starting in 2020, Grace has added a specific climate-related risk aspect to its existing enterprise risk management process to cover transition risks and has expanded its existing risk categories to include the acute and chronic risks of climate change. Grace presently has a fully integrated enterprise wide hazard and risk assessment process. The process assesses business continuity risks such as key sites or systems being compromised or failing due to any number of potential initiating events. This process covers all manner of causes including those arising from severe weather events, product safety, and evolving regulations that might impact market acceptance. Our risk assessment process includes the evaluation of emerging regulations, technological trends including the transition to a lower carbon future, and acute physical risks such as extreme weather events and heat stress are all evaluated as potential hazards and ranked in conjunction with all other risks. Risks are communicated to the Senior Vice President of Government and Environment, Health and Safety (C-suite level position) and relevant impacted stakeholders. All risks are ranked based on the total risk score.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods
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Primary potential financial impact

Increased capital expenditures

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Multiple facilities globally are located within 20 miles of a coast placing them at risk from increased severity of hurricanes and weather events causing production interruptions.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenues and profits or cost of operations.

Cost of response to risk

0

Description of response and explanation of cost calculation

Grace has global production capacity and a robust business continuity planning process. With our global network of manufacturing facilities, Grace can rebalance and reprioritize production planning to meet changes in capacity and customer demand. The company also carries property, casualty, and business interruption insurance.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Increasing number of countries likely to adopt carbon taxes to accelerate the low carbon transition likely impacting Grace's costs of compliance

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenue or cost of operations.

Cost of response to risk

0

Description of response and explanation of cost calculation

Grace is focused on investments in the Grace Productivity program that lead to emissions reduction activities that both improve the bottom line and reduce the emissions intensity of our operations.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Increased price of carbon in the EU ETS market due to the introduction of the market stability reserve which reduced the availability of carbon allowances by reducing the total number of allowances auctioned in the marketplace. The market is expected to tighten further.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenue or cost of operations.

Cost of response to risk

0

Description of response and explanation of cost calculation

Facilities covered by the EU-ETS regulation routinely conduct optimization projects utilizing an ISO certified management system to identify opportunities and prioritize the allocation of capital to realize those opportunities where appropriate.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Graces catalysts drive value in the petrochemical industry by reducing the amount of feedstock required to separate and create petrochemicals. The move towards a lower carbon future will require higher efficiency that can be achieved through the use of high efficiency catalysts.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenue or cost of operations.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Grace continues to invest in the development and acquisition of new fine chemicals and catalyst technologies. Grace continues to increase the activity of our catalysts giving down stream efficiency benefits to our customers.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Product innovation and development that leverages existing refining infrastructure to develop and bring renewable transportation fuels and additives to market that meet stringent regulatory and performance criteria.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenue or cost of operations.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Grace continues to invest in the development of new technologies capable of leveraging existing infrastructure and alternative renewable raw materials to meet increasingly stringent regulatory requirements and shifting consumer demand.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Increases in energy efficiency and process optimization is an opportunity for Grace to be more competitive against less efficient companies as governments continue to adopt either carbon taxes or develop market based solutions to greenhouse gas reduction including within the EU-ETS and Quebec CaT-ETS.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Grace currently uses a qualitative and not quantitative analysis to assess and prioritize risks which may result in a significant impact to revenue or cost of operations.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Grace's focus on energy efficiency and productivity will continue to allow our facilities to compete effectively in a carbon constrained environment under anticipated market conditions.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

No, but we anticipate using qualitative and/or quantitative analysis in the next two years

C3.1c

(C3.1c) Why does your organization not use climate-related scenario analysis to inform its strategy?

Grace recognizes that the effects of climate change will play out over a medium to long time horizon, however the exact timing and impact on our business are uncertain. To reduce this uncertainty, we anticipate using climate-related scenario analysis to appropriately incorporate the potential effects of climate change into our strategy and planning processes. In 2019, we began gathering the necessary data to begin this analysis and we anticipate using the guidance provided by the Task Force for Climate Related Financial Disclosures (TCFD) to evaluate how climate-related risks and opportunities may evolve under different warming scenarios and their potential implications for Grace over the next two years. As this analysis is pending, we have not yet utilized climate-related scenario analysis to inform our business strategy.

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	The value we deliver through customer-driven innovation increasingly is based on how we help our customers meet their sustainability goals. Grace products and technical services improve the efficiency of our customers' processes, reduce energy or water use, cut harmful emissions, conserve material inputs, and reduce waste. The rise in Global automotive fuel economy standards is one example of a strategic decision in this area that has increased demand for lightweight materials for the automotive market, and thus increased demand for our high performance polypropylene catalysts like Polytrack®. PHONOSORB® adsorbents made with 3A zeolite synthetic molecular sieves prevent moisture accumulation in multi-pane glass windows and allow window manufacturers to meet the EU's quality requirements for reducing energy usage for heating and cooling. PERKASIL® precipitated silicas are used to produce low rolling resistant tires to improve vehicle fuel efficiency. In addition, they improve tear strength, abrasion resistance, and aging resistance of tires, lengthening tire life. Graces DeNOx line of additives assist refineries in the catalytic reduction of NOx emissions to support environmental compliance and reduce facility wide emissions. Graces EnRich GT Catalysts enable drop in biofuels that can be used in conventional engines and existing refining infrastructure to economically convert renewable feedstocks into transportation fuels.
Supply chain and/or value chain	Yes	We have made an evaluation of the following aspects with respect to climate change: Climate Change impacts to our supply chain and/or value chain have been immaterial despite an increasing number of countries where our suppliers operate covered by either Carbon Tax or Carbon Market systems. Our supply chain continues to prove resilient to extreme weather events. However, one example of a strategic decision in this area is that some specific suppliers have been impacted by severe weather events that may potentially be associated with climate change.
Investment in R&D	Yes	Grace continues to invest heavily in R&D and the acquisition of technologies which increase the efficiency of our customers operations and products. One example of a strategic decision in this area is that as our customers increasingly focus on climate impacts of their operations and products, we expect our investment in R&D to increase in this area.
Operations	Yes	We are subject to significant risks from both natural disasters and accidents such as fires, storms, and floods and other disruptive events. Some of our facilities may have been impacted by weather-related events which may be related to climate change. One example of a strategic decision in this area is that Some of our facilities have been impacted by emissions trading systems which have increased the costs associated with their operation. This has increased the focus on our productivity program to drive continuous improvement in operational efficiency.

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of Influence
Row 1	Revenues Indirect costs Capital expenditures Capital allocation Acquisitions and divestments	Our 2016 - 2021 growth plan is based in part on increasingly strict environmental regulations including those related to greenhouse gases. By building on our competitive advantages in products that help our customers, Grace improves the performance and efficiency of their operations and supply products to end users to meet stricter fuel standards. Our projections for operating costs include the continued application and potential expansion of green house gas regulatory programs impacting our manufacturing operations. Some of our facilities have been impacted by weather related events which may be related to climate change. Some of our facilities have been impacted by emissions trading systems, which have impacted the costs associated with their operation. This has increased the focus on our productivity program to drive continuous improvement in operational efficiency. Our financial plans include continued achievement of productivity gains at our facilities that will increase operational and energy efficiencies. In addition, climate change risks associated with extreme weather events have impacted capital expenditure decisions for some facilities along the coast and water ways. Grace's approach to M&A focuses on strategic fit with our businesses, and manufacturing capabilities, and alignment with the key drivers of our growth plan, including stricter application of environmental regulations by providing our customers with products that increase the efficiency of their operations and products.

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

The Grace Value Model defines how Grace creates and delivers value to customers, investors and employees. Our focused portfolio and customer-driven innovation enable us to meet the needs of our customers in a carbon constrained world. Through operating excellence and disciplined capital allocation Grace continually improves through critical investments in resource intensity reduction, energy efficiency and cost reduction projects that ensure our facilities will be competitive. Among our key growth drivers are the demand for stricter environmental standards and an increasing global focus on sustainability.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	Grace continues to target additional acquisitions which will likely increase Graces absolute emissions over a five-year period, however, Grace expects its emissions rate per kilogram of production to continue to decrease.	In 2007, Grace established a global, company-wide goal of reducing energy intensity by 20% by 2017. While Grace did not meet this goal, we developed a robust productivity project process that is deeply engrained and part of our drive towards operational excellence. Grace is in the process of establishing a new emissions baseline for its facilities and will set a new emissions target beginning in 2020. Grace expects to continue reducing the impacts of operating our facilities by driving towards operational excellence by making our manufacturing operations less resource intensive, more productive, and more cost-effective ultimately reducing water usage and greenhouse gas emissions.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year?

Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	9	7143
Implemented*	33	25356
Not to be implemented	0	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Various energy efficiency initiative types)
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Estimated annual CO2e savings (metric tonnes CO2e)

25356

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1000000

Investment required (unit currency – as specified in C0.4)

12000000

Payback period

11-15 years

Estimated lifetime of the initiative

21-30 years

Comment

At this time, we do not track emissions savings for initiatives. For this response, we have estimated emissions savings using an EPA estimated social cost of carbon.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	Grace is focused on investments in the Grace Productivity program that lead to emissions reduction activities that both improve the bottom line and reduce the emissions intensity of our operations.

C4.5

(C4.5) 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

C4.5a

(C4.5a) 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

Group of products

Description of product/Group of products

Products that avoid GHG emissions in the use phase of the final product.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (Grace has utilized the SASB definition of products designed for use phase efficiency to classify our products according to climate change related benefits.)

% revenue from low carbon product(s) in the reporting year

4

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

Grace has refined its product innovation and strategic marketing process to develop new products by looking holistically at the value proposition of products under development, including the environmental and energy impacts and benefits associated with their manufacture as well as their use, to more comprehensively enhance sustainability in the value we deliver. Products in this category enable our customers to be more efficient, requiring fewer resources and energy per unit of production. For example: High-performance plastic resins made with Grace's Polytrack® polypropylene catalysts, because of their inherent strength, require less polymer per article, reducing the weight of automobile parts, thereby improving vehicle fuel efficiency and reducing emissions. PHONOSORB® adsorbents made with 3A zeolite synthetic molecular sieves prevent moisture accumulation in multi-pane glass windows and allow window manufacturers to meet the EU's quality requirements for reducing energy usage for heating and cooling. PERKASIL® precipitated silicas are used to produce low rolling resistant tires to improve vehicle fuel efficiency. In addition, they improve tear strength, abrasion resistance, and aging resistance of tires, lengthening tire life. Graces DeNOx line of additives assist refineries in the catalytic reduction of NOx emissions to support environmental compliance and reduce facility wide emissions. Graces EnRich GT Catalysts enable drop in biofuels that can be used in conventional engines and existing refining infrastructure to economically convert renewable feedstocks into transportation fuels.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

571329.53

Comment

Grace is establishing its base year emissions in alignment with CDP guidance for 2020. In 2020, we improved our data collection and emissions calculation methodologies. This reporting year we are also excluding 'non-industrial buildings'.

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

160648.84

Comment

Grace is establishing its base year emissions in alignment with CDP guidance for 2020. In 2020, we improved our data collection and emissions calculation methodologies. This reporting year we are also excluding 'non-industrial buildings'.

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

170326.59

Comment

Grace is establishing its base year emissions in alignment with CDP guidance for 2020. In 2020, we improved our data collection and emissions calculation methodologies. This reporting year we are also excluding 'non-industrial buildings'.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

575773.52

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Grace is establishing its base year emissions in alignment with CDP guidance for 2020. In 2020, we improved our data collection and emissions calculation methodologies and we are now excluding 'non-industrial buildings'.

C6.2

(C6.2) Describe your organization’s approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization’s gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

165731.6

Scope 2, market-based (if applicable)

175675.19

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

C6.4

(C6.4) Are there 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?

Yes

C6.4a

(C6.4a) 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

Sales offices and warehouses within our operational control.

Relevance of Scope 1 emissions from this source

No emissions from this source

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

These facilities are not material users of energy within our organization.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As purchased goods and services contribute to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Capital goods

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As capital goods contribute to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As fuel and energy related activities contribute to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Upstream transportation and distribution**Evaluation status**

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As upstream transportation and distribution contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Waste generated in operations**Evaluation status**

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As waste generated during operations contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Business travel**Evaluation status**

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As business travel contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Employee commuting**Evaluation status**

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As employee commuting contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As we do not currently hold any upstream leased assets, this is not relevant for our value chain.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As downstream transportation and distribution contribute to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3

emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As the processing of sold products contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Use of sold products

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As the use of sold products contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse

Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As the end of life treatment of sold products contributes to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Downstream leased assets

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As downstream leased assets contribute to emissions from our value chain, they are relevant to our Scope 3 emissions. However, as Grace has not calculated its Scope 3 emissions the magnitude of their impact is unknown. We anticipate evaluating Scope 3 emissions and building the capacity to report those scope 3 emissions in the future using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011). Based on the results of that assessment we may change the relevancy of this category.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As we do not currently operate through any franchises, this is not relevant for our value chain.

Investments**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

As we do not currently hold investments in other companies, this is not relevant for our value chain.

Other (upstream)**Evaluation status**

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0003022

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

741656.12

Metric denominator

unit total revenue

Metric denominator: Unit total

2468500000

Scope 2 figure used

Market-based

% change from previous year

94

Direction of change

Decreased

Reason for change

As part of our ongoing efforts to measure our environmental impact, we invested in improving our data tracking and calculation methodology. Due to this we have seen meaningful improvement in the quality of our emissions values and expect they will remain comparable in future reporting years. We manufacture our hydroprocessing catalysts through our Advanced Refining Technologies LLC (“ART”) joint venture with Chevron Products Company (“Chevron”). We hold a 50% economic interest in ART, which is not consolidated in our financial statements so ART’s sales are excluded from our sales in the 10K. The metric denominator includes all ART revenue to align with our operational control over all production.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	571556.98	IPCC Fifth Assessment Report (AR5 – 100 year)
CH ₄	520.69	IPCC Fifth Assessment Report (AR5 – 100 year)
N ₂ O	311.68	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	1734.62	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (Mix of various refrigerants, process emissions, and other greenhouse gases)	1649.55	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Americas	384780.27
Europe, Middle East and Africa (EMEA)	180231.64
Asia Pacific (or JAPA)	10761.61

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By facility

By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Advanced Refining Technologies (ART)	23116
Refining Technologies (RT)	207168
Specialty Catalysts (SC)	62589
Material Technologies (MT)	282900

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Curtis Bay	105547.62	39.21	-76.57

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Lake Charles	146351.98	30.16	-93.34
Worms	128727.84	49.66	8.36
Rest of World	195146.09	34.84	127.7

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Administrative	4444
Manufacturing	571330

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	571329.53	<Not Applicable>	This reporting year we are excluding 'non-industrial buildings' in alignment with CDP guidance for 2020.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Americas	120996.62	124147	336424.67	0
Europe, Middle East and Africa (EMEA)	31695.97	38489.19	122735.76	0
Asia Pacific (or JAPA)	13039	13039	23822.86	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By facility

By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Advanced Refining Technologies (ART)	10123	10718
Refining Technologies (RT)	31152	32957
Specialty Catalysts (SC)	41833	43036
Material Technologies (MT)	82624	88965

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Curtis Bay	34154.12	35966.29
Lake Charles	32234.43	31502.94
Worms	2617.22	4553.82
Rest of World	96725.83	103652.14

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Administrative	5082.76	5348.61
Manufacturing	160648.84	170326.59

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	160648.84	170326.59	This reporting year we are excluding 'non-industrial buildings' in alignment with CDP guidance for 2020.
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO2e from purchased feedstock	Explain calculation methodology
Other (please specify)		Grace does not currently assess its Scope 3 emissions but plans on evaluating the relevance of scope 3 emissions and building the capacity to report those scope 3 emissions determined to be relevant using the Greenhouse Gas Protocols Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011) in the future.

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO2)	0	
Methane (CH4)	0	
Nitrous oxide (N2O)	0	
Hydrofluorocarbons (HFC)	0	
Perfluorocarbons (PFC)	0	
Sulphur hexafluoride (SF6)	0	
Nitrogen trifluoride (NF3)	0	

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) 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.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	
Other emissions reduction activities	0	No change	0	
Divestment	0	No change	0	

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	0	No change	0	
Change in methodology	11739581.68	Decreased	94	Changes in methodology and improved data collection lead to a decrease in reported emissions from 2019 to 2020. Our total Scope 1 and Scope 2 emissions in 2018 summed to 12,481,087, therefore we arrived at 94% through $(11,750,406/12,481,087)*100 = 94\%$.
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

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

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	1519813.12	1519813.12
Consumption of purchased or acquired electricity	<Not Applicable>	0	366201.99	366201.99
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	132255.36	132255.36
Consumption of purchased or acquired cooling	<Not Applicable>	0	0.01	0.01
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	0	2018270.49	2018270.49

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	1495930.67
Consumption of purchased or acquired electricity	<Not Applicable>	350727.92
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	132255.36
Consumption of purchased or acquired cooling	<Not Applicable>	0.01
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0
Total energy consumption	<Not Applicable>	1978913.96

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	Yes
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Compressed Natural Gas (CNG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

139769.12

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

7.03

Unit

kg CO2e per gallon

Emissions factor source

Various

Comment

We used a combination of emissions factors from EPA 2015 and IPCC 2006. We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

3573.4

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

10.22

Unit

kg CO2e per gallon

Emissions factor source

EPA 2015 Blended

Comment

We used several different emissions factors from EPA 2015 to calculate emissions for our consumption of diesel because some of our facilities report gallons of fuel consumed and others report mileage. We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Distillate Oil

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

454.2

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

10.24

Unit

kg CO2e per gallon

Emissions factor source

EPA (November 2015)

Comment

We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

11999.24

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

5.75

Unit

kg CO2e per gallon

Emissions factor source

Various Blended

Comment

We used a combination of emissions factors from EPA 2015 and IPCC 2006. We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1424.93

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

8.8

Unit

kg CO2e per gallon

Emissions factor source

EPA 2015 Blended

Comment

We used several different emissions factors from EPA 2015 to calculate emissions for our consumption of motor gasoline because some of our facilities report gallons of fuel consumed and others report mileage. We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1362229.98

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

366167.77

Emission factor

1.77

Unit

kg CO2e per m3

Emissions factor source

EPA (November 2015)

Comment

We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Propane Liquid

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

50.41

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

5.74

Unit

kg CO2e per gallon

Emissions factor source

EPA (November 2015)

Comment

We intend to update our factors in 2021.

Fuels (excluding feedstocks)

Residual Fuel Oil

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

311.85

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

10.24

Unit

kg CO2e per gallon

Emissions factor source

EPA (November 2015)

Comment

We intend to update our factors in 2021.

C8.2d**(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	0	0	0	0
Heat	0	0	0	0
Steam	321440.98	321440.98	0	0

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Cooling	0	0	0	0

C-CH8.2d

(C-CH8.2d) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

	Total gross generation (MWh) inside chemicals sector boundary	Generation that is consumed (MWh) inside chemicals sector boundary
Electricity	0	0
Heat	0	0
Steam	321440.98	321440.98
Cooling	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

None (no purchases of low-carbon electricity, heat, steam or cooling)

Low-carbon technology type

<Not Applicable>

Country/region of consumption of low-carbon electricity, heat, steam or cooling

<Not Applicable>

MWh consumed accounted for at a zero emission factor

<Not Applicable>

Comment

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

No

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Other, please specify (Total weight of final goods and intermediate products we produce)

Production (metric tons)

540526.19

Capacity (metric tons)

Direct emissions intensity (metric tons CO2e per metric ton of product)

1.06

Electricity intensity (MWh per metric ton of product)

0.65

Steam intensity (MWh per metric ton of product)

0.84

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

At this time, we are not able to identify weight of specific products so the values provided in this response represent the total weight of final goods and intermediate products we produce.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Grace Polytrack® improves our customers products through high performing polypropylene catalysts enabling light weighting of auto parts for down stream customers increasing fuel efficiency for internal combustion engines and extending range on electric vehicles. Our custom single-site Polyethylene catalysts allow light weighting and downgauging of packaging to reduce the volume of plastic resin required for the shipment and display of consumer goods while maintaining optimal physical properties required by fast moving consumer goods companies. Grace Perkasil® integrates with rubber in automotive tires resulting in improved reinforcement index, wear properties, and reduced rolling resistance leading to better fuel economy. Grace Phonosorb® zeolite desiccants preserve the low dew point in the air space between the inner and outer glass panes of insulated glass by minimizing pressure changes and specifically absorbing water and solvents introduced during the manufacturing process. This increasing the lifespan of insulated windows while preserving the sound and heat insulation properties. Makers of biodiesel, an alternative to petroleum-based diesel fuel, use Grace's EnRich® catalyst to maximize the efficiency of the biomass conversion process from pre-treatment of base oil to final polishing of the fuel leveraging existing refining infrastructure for drop in biodiesel fuels.

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
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Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Process step integration	Large scale commercial deployment	≤20%		Grace Polytrack® improves our customers products through high performing polypropylene catalysts enabling light weighting of auto parts for down stream customers increasing fuel efficiency for internal combustion engines and extending range on electric vehicles. Our custom single-site Polyethylene catalysts allow light weighting and downgauging of packaging to reduce the volume of plastic resin required for the shipment and display of consumer goods while maintaining optimal physical properties required by fast moving consumer goods companies. Grace Perkasil® integrates with rubber in automotive tires resulting in improved reinforcement index, wear properties, and reduced rolling resistance leading to better fuel economy. Grace Phonosorb® zeolite desiccants preserve the low dew point in the air space between the inner and outer glass panes of insulated glass by minimizing pressure changes and specifically absorbing water and solvents introduced during the manufacturing process. This increasing the lifespan of insulated windows while preserving the sound and heat insulation properties. Grace's EnRich® line of catalysts maximize the efficiency of biomass conversion leveraging existing refining infrastructure for drop in biodiesel fuels.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

Québec CaT - ETS

Sweden carbon tax

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS

31

% of Scope 2 emissions covered by the ETS

20

Period start date

January 1 2019

Period end date

December 31 2019

Allowances allocated

66549

Allowances purchased

23250

Verified Scope 1 emissions in metric tons CO2e

0

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment**Québec CaT****% of Scope 1 emissions covered by the ETS**

23

% of Scope 2 emissions covered by the ETS

2

Period start date

January 1 2019

Period end date

December 31 2019

Allowances allocated

31759

Allowances purchased

9000

Verified Scope 1 emissions in metric tons CO2e

0

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Sweden carbon tax

Period start date

January 1 2019

Period end date

December 31 2019

% of total Scope 1 emissions covered by tax

0.16

Total cost of tax paid

Comment

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Grace is constantly evaluating its regulatory needs and is fully compliant with the rules and regulations of the EU-ETS and Quebec CaT. In addition to just maintaining compliance, Grace is also focused on reducing GHG emissions resulting from our operations through the optimization of energy efficiency through audited energy management systems, improvement projects, and the optimization of its allowances. By reducing its emissions, Grace is reducing its costs under the Sweden carbon tax system as well. One example of Grace applying this strategy is at our Valleyfield facility, where there has been a capital improvement project to upgrade and install new plant equipment to reduce the facility's overall emissions.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our customers

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

50

% of customer - related Scope 3 emissions as reported in C6.5

0

Portfolio coverage (total or outstanding)

<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement

Rationale: Delivering value to our customers along a variety of attributes is core to Graces business model. Grace products and technical services improve the efficiency of our customers' processes, reduce energy or water use, cut harmful emissions, conserve material inputs, and reduce waste. Engagement with our customers across these domains is essential to ensuring our products continue meet the expectations of our customers and upstream value chain participants. Scope of Engagement: The value we deliver through customer-driven innovation increasingly is based on how we help our customers meet their sustainability goals. Where customer specific objectives include direct or indirect climate related aspects such as reduced energy requirements in production processes (Scope 1 & 2) or reduced raw material inputs (Scope 3) Grace has leveraged its significant technical

expertise to collaboratively develop, test, and scale products to deliver value to our customers.

Impact of engagement, including measures of success

Grace's measure of success are based on the percent composition of our revenue that meets one of our four sustainability endpoints. Two of these endpoints include climate related measures. ~\$0.1 Billion in revenue is derived from products that increase the efficiency of a product during its use phase; ~0.5 Billion in revenue is derived from products that improve processes by increasing the efficiency of the manufacturing process used to make a product;

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

American Chemistry Council

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The ACC believes that making sustainable progress toward the reduction of greenhouse gas (GHG) emissions, while minimizing the costs to society, requires consistent, predictable policy and regulatory environments that foster innovation, investment and economic growth. Any new U.S. climate policy should cover all sources of GHG emissions and be developed by the U.S. Congress. Climate change is a global challenge that requires long-term commitment

and action by every segment of society. A combination of technology, market-based and policy solutions will be necessary to reduce greenhouse gas emissions (GHG) and achieve climate goals, such as those of the Paris Agreement. The chemical industry – and innovations in chemistry – are critical to achieving efficient and effective climate change solutions. Many low-carbon solutions rely on innovations in chemistry – from lithium-ion batteries that drive electric cars to high-performance building insulation and windows to lightweight plastic packaging and auto parts that reduce energy needs, and carbon emissions, in shipping and transportation. As a significant manufacturing sector, we are continuously improving the energy efficiency and intensity of our own operations. The chemical industry is developing transformational technologies that cut emissions, improve energy efficiency and enable a socially, environmentally and economically sustainable future. Source: <https://www.americanchemistry.com/ACC-Climate-Policy-Principles.pdf> See: <https://www.americanchemistry.com/Climate-Policy-Positions.pdf>

How have you influenced, or are you attempting to influence their position?

Grace participates in several committees throughout the organization.

Trade association

CEFIC

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

A sound and detailed definition of climate-neutrality provides a signal for long-term investments. The path to climate-neutrality must be based on a detailed definition; one which unites and strengthens European national actions and sets out clear rules and mechanisms for operating, including transborder GHG projects for reduction accounting. The EU wants to be climate neutral as a continent but not in isolation from the rest of world. All sectors of the economy need to be on board to reach climate neutrality. Besides managing the different global speeds of reducing emissions, different sectors of the economy also reduce emissions at different rates. The chemical industry requires integrated efforts to reduce further greenhouse gas emissions, notably linked to the energy sector. All the sectors of the economy must work together to deliver on climate-neutrality. An enabling framework will be the key to success. All Energy Intensive Industries have called for a Clean Industry Package with concrete actions based on three pillars: the creation of markets for climate neutral, circular economy products; developing climate neutral solutions and financing their uptake; and the deployment of the necessary resources. To achieve its transition, the chemical industry will need much more energy than today, and this energy will have to be low-carbon. The EU Industrial Strategy package should create the foundations for deploying radical industrial policies to accelerate the European Green Deal transformation of the EU industry. Moreover, EU policies should not only preserve intra-EU competition but also equip European industry to compete on a global scale.

How have you influenced, or are you attempting to influence their position?

Grace participates as a member of the organization.

Trade association

CAIC

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Recognize that the chemical industry has been effective in managing climate change for several decades. Address the global competitiveness of the Canadian chemistry industry in the design and implementation of Carbon Policy to allow its member-companies to deliver the products and solutions needed to meet the climate change challenge domestically and abroad. Define sustainable and economically efficient GHG emissions reduction objectives that are balanced with economic-driven growth objectives in the chemistry industry. Provide certainty and predictability for continued operation and growth of the chemistry sector in federal, provincial and cross-border regulatory frameworks. Build upon the Canadian chemistry industry's know-how to maintain our society's ability to innovate and to respond efficiently to climate change pressures and to the changing needs of a low-carbon economy.

How have you influenced, or are you attempting to influence their position?

Grace participates through its commitment to Responsible Care® and implementation of the associated management system.

C12.3f

(C12.3f) 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?

Grace has established a Government Relations group which is responsible for directing all political activity and coordinating company interactions with Government Officials in all countries in which Grace conducts business. The Vice President of Government Relations and Environment Health and Safety is also our chief corporate officer responsible for developing and implementing climate change related policies. We have established mechanisms, such as our EHS policy and Responsible Care Management system, to ensure that activity seeking to externally influence policy agendas aligns with the company's commitments and strategic objectives.

C12.4

(C12.4) 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

No publications with information about our response to climate-related issues and GHG emissions performance

Status

<Not Applicable>

Attach the document

<Not Applicable>

Page/Section reference

<Not Applicable>

Content elements

<Not Applicable>

Comment

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Senior Vice President Government Relations and Environment Health and Safety	Other C-Suite Officer

