

Welcome to your CDP Climate Change Questionnaire 2019

C0. Introduction

C0.1

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

With 181,000 employees, Saint-Gobain is present in 67 countries and holds more than 100 brands. The Group is a worldwide leader in the habitat and construction markets, providing comfort, performance and safety while addressing the challenges of sustainable construction, resource efficiency and climate change all over the world. As a growing number of countries pass new regulations in favor of more energy-efficient buildings, it encourages the introduction of innovative construction techniques for new buildings along with new insulation standards for renovation projects. At the same time, urbanization is a major trend that is affecting the construction market in both developed and emerging countries. The rapid exponential growth in infrastructure needs and increasing demand for energy-efficient solutions represent valuable opportunities for Saint-Gobain. With its unique positioning, Saint-Gobain is among the first to benefit from the environmentally led growth in the construction market. Innovation is at the heart of Saint-Gobain's strategy. To support that vision and continuously improve its processes and products, Saint-Gobain invests heavily in R and D. For the past eight years, the Group has been ranked in the Top 100 Innovators by Clarivate. Over 80% of the Group's sales occur in the construction markets, including new construction, renovation, civil engineering and infrastructure. Considerable change is on the way in interior and exterior insulation solutions. The major part of our products (flat glass, glass wool, plasterboard, exterior wall and floor coating mortars) already helps to make buildings more energy efficient for the end user and we intend to further improve their performance in the future. The Group has announced in 2018 a new organization, effective from 2019. Saint-Gobain's previous structure relied on a matrix-based system with three Sectors of activity (Innovative Materials, Construction Products, Building Distribution) and 14 General Delegations coordinating the Group's actions and representing it in its various countries. The new structure is as follows: - Activities in regional markets (activities from the former Building Distribution and Construction Products, as well as building glass) are now organized by country and consolidated into four regions (Northern Europe; Southern Europe, Middle-East, Africa; Americas; Asia-Pacific). In markets where products and services are supplied locally and mostly have short distances to cover, the structure per country and region will leverage Saint-Gobain's strengths to meet the specific needs of each local market. - A High Performance Solutions entity is responsible for global market activities (corresponding to the former High-Performance Materials Sector as well as the automotive glazing activities). These are products and services with a high unit value that can be shipped over long distances and whose value is often created through co-innovation with customers and bespoke technologies. The High Performance Solutions BUs provide the best service to the various markets with three market-oriented BUs (Mobility, Life sciences,



Construction Industry) and two BUs serving industry more generally (one channel-oriented Abrasives and Composite Systems BU and one product-oriented Ceramics BU). To showcase and monitor its strong engagement towards sustainability, Saint-Gobain has set for itself a number of ambitious targets in the areas of environment including CO2 emissions and energy consumption. Those targets are set up for the plants being representative of the impact of the Group. In 2018, around 500 plants are concerned. In the area of sustainable development and corporate social responsibility, Saint-Gobain is included on the MSCI World ESG Leaders, STOXX® Global ESG Leaders, Euronext-Vigeo Europe 120, Euronext Vigeo Eurozone 120, Ethibel ESI Excellence Global, Ethibel ESI Excellence Europe, FTSE4Good indices and Dow Jones Sustainability Index. We strongly recommend the reader to check our 2018 registration document before reading this full CDP document, particularly the pages: 63 to 65, 74 to 77 and 104-105 Link to the document: https://www.saint-gobain.com/sites/sgcom.master/files/ddr_2018_-_saint-gobain_-_va.pdf

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
Row 1	January 1, 2018	December 31, 2018	No

C0.3

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

- Albania
- Algeria
- Argentina
- Australia
- Austria
- Belgium
- Bhutan
- Botswana
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Colombia
- Czechia
- Denmark
- Egypt
- Estonia
- Finland
- France

Germany
Ghana
Greece
Hungary
India
Indonesia
Ireland
Italy
Japan
Jordan
Kuwait
Latvia
Lebanon
Lithuania
Luxembourg
Malaysia
Mexico
Morocco
Netherlands
New Zealand
Norway
Oman
Peru
Poland
Portugal
Qatar
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Serbia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
Thailand
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America
Venezuela (Bolivarian Republic of)
Viet Nam
Zimbabwe

C0.4

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

EUR

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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

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	<p>The directors of the Board participated, in February 2018, at a seminar organized specifically to their attention by the Chief Sustainability Officer, devoted to climate change and its consequences for businesses, with the support of external experts, recognized internationally. This seminar intended to enable each director to better understand the issues related to climate change for the Saint-Gobain Group and the consequences on its strategy.</p> <p>Climate change is a topic regularly discussed at Board level and for which the Board has full oversight. As illustration, on last November 2018, the following topics related to climate change were assessed by the Board of Directors : Group climate and energy results vs objectives, sustainability of our products and information on SBT/TCFD.</p> <p>The Vice President of Sustainable Development is systematically invited during the September strategic seminar of the Board: in 2018, the topics of biodiversity and circular economy were discussed</p>

<p>President</p>	<p>It is the Chairman, the Chief Executive Officer and a Member of the Board. He is also member of the Strategy and CSR Committee which is responsible for reviewing the strategic plan, its potential for improvement and the strategic topics proposed by its members. He reports quarterly to the Executive Board. Saint-Gobain 's CEO has been very active during the COP21;in 2015, he published his book on climate change: "notre combat pour le climat". In 2016 he has been awarded the World GBC's David Gottfried prize. This award, created in 2011, rewards personalities who have made a unique, innovative and entrepreneurial contribution to the global cause of sustainable building development.</p>
<p>Other, please specify executive committee</p>	<p>Senior Vice President in charge of Human Resources,who has the overall responsibility of the Sustainable Development department General Secretary of the Group in charge of Corporate Social Responsibility</p>

C1.1b

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

<p>Frequency with which climate-related issues are a scheduled agenda item</p>	<p>Governance mechanisms into which climate-related issues are integrated</p>	<p>Please explain</p>
<p>Scheduled – some meetings</p>	<p>Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>The Board is in charge of the overall strategy regarding climate-related issues. The Strategy and CSR Committee of the Board of Directors, composed of three Directors including the CEO meets 6 times per year and regularly tracks the implementation of short-, medium- and long-term programs, covering also risks and opportunities. Leadership for this challenge is provided directly by the Vice President of Sustainable Development.</p>

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)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

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 Strategy and CSR Committee of the Board of Directors, composed of three Directors including Saint Gobain’s CEO, meets 6 times per year and regularly tracks the implementation of short-, medium- and long-term programs, covering also risks and opportunities. In 2016, the Group developed its CSR dashboard under the supervision of the Board of Directors. Leadership for the climate change challenge is provided directly by the Vice President of Sustainable Development (CSO). The Chief Sustainability Officer, Vice-President, reports to the Senior Vice President in charge of Human Resources, who has the overall responsibility of the Sustainable Development department and is member of Saint-Gobain Executive Committee. This person reports to Saint-Gobain’s CEO. The Sustainable Development department is responsible for managing the Group strategy in terms of Sustainable Development. This particularly includes, for climate change, topics such as carbon footprint of our products (worked in close relationship with our Marketing Department) and achievement of our climate-related targets at production facility level. In addition, each year, a mapping analysis of the Groups’ major risks is made by the Internal Audit and Business Control Department. All the material risks that the Board of directors must be aware of are included into the mapping analysis. Climate change related risks are included in the mapping analysis of the Group’s as potential material risks with the support of our CSO. The map is being reviewed by the Audit and Risks Committee and then validated by the board of directors.

C1.3

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

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).

Who is entitled to benefit from these incentives?

President

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

One third of the CEO's total bonus is based on three qualitative targets, one of them being the deployment of the corporate social responsibility policy (including for climate change: sustainability of our products and CO2 emissions targets at facility level corresponding to a 20% reduction by 2025 compared to 2010 at iso-production).

Who is entitled to benefit from these incentives?

Other, please specify

2253 Group officers and employees

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

People entitled to that monetary reward are: high-potential managers and managers who have performed exceptionally well (2,175 grantees), key corporate and line executives (68 grantees), senior management (9 grantees), Chairman and Chief Executive Officer.

Since 2017, the following performance conditions are considered for CSR: the total recordable accident rate (more than 24 hours' lost and non lost time), the reduction rate of CO2 emissions and the senior executives diversity index.

Who is entitled to benefit from these incentives?

Facilities manager

Types of incentives

Recognition (non-monetary)

Activity incentivized

Efficiency project

Comment

Facility managers receive a recognition letter in the framework of the internal program called CARE4 if they succeed in raising the energy performance of their building to the best national energy performance standard. In the end of 2018, 36 buildings were recognized as CARE4.

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Recognition (non-monetary)

Activity incentivized

Emissions reduction project

Comment

The annual Emerald Awards reward Saint-Gobain sites around the world that carry out projects contributing to the reduction of their environmental impacts including energy and climate change as well as those of their manufactured products. The objectives with this competition are to raise the employee awareness on environmental stakes, enforce best practices and incentivize managers to launch and share their environmental projects. As example, in 2019, focusing on 2018 results, two sites were awarded regarding energy and CO2: one plastic site in Mexico which adapted its energy consumption to its production needs and one insulation site in Romania which substituted fossil fuel by biomass

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	3	Our environment medium-term target, including CO2 and energy, is in 2025 compared to 2010. This 15 years period is cut in 5 periods of 3 years. During each 3 years period, the scope of sites is updated by considering the sites concerned by the environment (ie giving together an appropriate overview of the Group impact). We are in 2018 in the 2017-2019 period with 2016 as reference year.
Medium-term	3	9	Our environment medium-term target, including CO2 and energy, is in 2025 compared to 2010 at isoproduction (ie at constant production level). The target is -20% for CO2 emissions and -15% for energy consumption.

Long-term	9	34	We are presently leading a reflexion on our environmental targets beyond 2025.
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C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	<p>The Group conducts risks assessment over the short, mid, and long term, taking into account the wide range of climate-change related risks.</p> <p>This assessment is mainly led by the Risk and Insurance department as well as at Business Control department.</p> <p>The Group deals with increased risks of loss due to climate change (flooding, rainfall or storm) within the scope of its industrial and distribution risks prevention policy. This takes into account the increase in extreme climate events, which specifically lead both to damage that may be caused to the facilities or stock and to interruptions in production or supplies. The degree of exposure and vulnerability of the sites to natural events is updated regularly together with the action plan with a view to improving their level of prevention and protection.</p> <p>Saint-Gobain internal control and risk management system is continuously updated, taking into account any additional risk that may emerge from climate change.</p>

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

The Sustainability Chief Officer is in charge of the coordination of the climate-related risks and opportunities. For example, the opportunity further identified as "development and/or expansion of low emission goods and services", through our insulation solutions, is part of his responsibilities. The Sustainable Development department is at the origin of the use of an

internal carbon price which aims at reducing financial risks by already applying a common carbon price at worldwide level, helping in identifying growth opportunities in low-carbon sectors, redirecting industrial and R & D investments, and prioritizing actions to reduce CO2 emissions. This is therefore a very useful tool to manage appropriately the transitional risk further identified as “Increased operating costs”. The Risk and Insurance department manages risks of property damage and related business interruption. The Group deals with increased risks of loss due to climate change (flooding, rainfall or storm) within the scope of its industrial and distribution risks prevention policy. This takes into account the increase in extreme climate events, which specifically lead both to damage that may be caused to the facilities or stock and to interruptions in production or supplies. The degree of exposure and vulnerability of the sites to natural events is updated regularly through adapted audits and self-assessments through an internal risk grading tool. This leads to definition and update of actions plan with a view to improving the level of prevention and protection. This process has been applied for the events further presented as being part of our physical risks (“Increased severity of extreme weather events such as cyclones and floods”). Facilities must apply the Group Loss Prevention Manual and Business Continuity Plans are defined at site level. Saint-Gobain’s internal control and risk management system is in charge of considering whether a risk has or not an impact on our business, including possible impacts on our business coming from the value chain (the impact being assessed from a financial, human, environmental and reputational perspectives). We use the internal control and risk management framework defined by the French securities regulator (Autorité des marchés financiers - AMF), as updated in July 2010, and on the 2013 update to the framework from the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The system complies with the legal requirements applicable to companies listed on the Euronext Paris regulated market. Each year, a mapping analysis of the Groups’ major risks is made by the Internal Audit and Business Control Department. All the material risks that the Board of directors must be aware of are included into the mapping analysis. Climate change related risks are included in the mapping analysis of the Group’s as potential material risks. The map is being reviewed by the Audit and Risks Committee and then validated by the board of directors. In that context, the threshold of 50 million euros is considered as a substantial financial impact threshold.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	The Legal Department anticipates and monitors new environmental regulations, those are then considered if applicable at appropriate level. As we are present in 67 countries, current regulation related risks are assessed and managed locally by the countries. The Group is not subject to any specific regulations that could have an impact on its financial position, although the Group companies that operate

		<p>industrial sites are generally required to comply with the specific national/local laws and regulations of the country where such sites are located.</p> <p>As illustration, we carry out a centralized monitoring to evaluate our CO2 position in the EU-ETS: CO2 emissions are estimated by our businesses and communicated to our Purchasing Department which coordinates the operations on the registries.</p>
Emerging regulation	Relevant, always included	<p>The Legal Department anticipates and monitors new environmental regulations. As we are present in 67 countries, current regulation related risks are assessed and managed locally by the countries.</p> <p>The introduction of stricter regulations or more diligent enforcement of existing regulations may affect the conditions under which the Group operates its businesses, which could increase its operating expenses, limit the scope of its activities or act as a brake on business growth. As illustration, we carry out a centralized monitoring to evaluate our CO2 position in the EU-ETS: CO2 emissions, not only current but also forecasted, are estimated by our businesses and communicated to our Purchasing Department which coordinates the operations on the registries. The follow-up also includes the future regulation in terms of EU-ETS credits allocation.</p>
Technology	Relevant, always included	<p>Part of the answer for going to lower carbon content of Saint-Gobain products will need some changes related to technology. This is today shared at each level (from plant to corporate) by energy&CO2 experts for existing best practices. R&D is also fully involved not only for process breakthrough technologies (as illustration, a specific transversal CO2&energy program is on-going) but also by considering eco-innovative solutions for new products.</p>
Legal	Not relevant, explanation provided	<p>We are constantly raising our norms above the current regulation to lead the Group vision of sustainability construction. We regularly assess regulation evolution both internally and through business associations.</p> <p>We consider this risk as “Not relevant” because we have undertaken a comprehensive risk assessment and we consider the related consequences as appropriately managed.</p>
Market	Relevant, always included	<p>Market is an opportunity rather than a risk: market is growing especially for sustainable construction solutions which are one of our core businesses and one of our main activities. The trend is toward more insulation and reduced water stress which are opportunities for our insulating and pipe businesses. It offers the Group a major opportunity for differentiation based on its portfolio of innovative, sustainable solutions for the construction and renovation markets. Nevertheless, we may face some risk related to the increase of raw</p>

		material cost, such as energy utilities. Our Purchasing department manages such risk through a risk management policy detailed per energy including long-term contracts with suppliers whenever interesting and possible.
Reputation	Not relevant, explanation provided	<p>We are promoting sustainable construction with the main actors of the sustainable construction such as Green Building Councils.</p> <p>Furthermore, we have a risk policy ensuring risk assessment and management and action plans for each risk assessed, including climate change related risk therefore risk related to brand image is minimized. Moreover, we have set targets to contribute to the reduction of CO2 emissions and energy consumption.</p> <p>We consider this risk as “Not relevant” because we have undertaken a comprehensive risk assessment and we consider the related consequences as appropriately managed.</p>
Acute physical	Relevant, always included	<p>Although our facilities are spread over a large geographical perimeter, we may be concerned by acute physical events at local level. We assess our exposure to acute physical climate-related risks (such as floods and storms) through regular audits and self-assessment questionnaires updated on an annual basis. Facilities must apply the Group Loss Prevention Manual and Business Continuity Plans are defined for each.</p> <p>At corporate level, the Risk and Insurance department manages risks of property damage and related business interruption (loss prevention and loss management)</p> <p>As illustration, in 2018, it registered and managed claims amounting to 12,5 millions € of damages due to two main events linked to flood and rain in France. There was also a major claim in excess of 50M€ for an event of rain in Egypt.</p>
Chronic physical	Relevant, always included	<p>Despite our facilities are spread over a large geographical perimeter, we may be concerned by chronic physical events at local level. We assess our exposure to chronic physical climate-related risks (such as drought) as for our acute physical risks.</p> <p>Regarding water stressed areas, the level of risk of each facility has been assessed. Following issuance of our Water policy in 2011, our water target has been fixed (-80% of discharges between 2025 and 2010 at iso-production) and covers the sites concerned by the environment (around 500 plants representative of the Group impact). Water stress is a criteria for entering in the scope. In 2018, some 60 sites withdrawing more than 5,000 m3 of water each year and representing around 11% of the Group’s water withdrawals were located in high-risk or very high-risk areas.</p>

Upstream	Not relevant, explanation provided	<p>There may be a risk for supplying our factories but we do not consider that this risk is relevant at company level.</p> <p>We indeed have undertaken a comprehensive risk assessment and we consider the related consequences as appropriately managed.</p> <p>The risks of purchasing categories integrate environmental performance in particular carbon and water footprints. The mapping evaluation is based on international and recognized sources. It allows for the identification and evaluation of risks connected to suppliers and thus determines priorities for action and engages a constructive dialogue for improvement.</p>
Downstream	Not relevant, explanation provided	<p>Downstream is mainly linked to the distribution of our products.</p> <p>We consider this risk as “Not relevant” because we have undertaken a comprehensive risk assessment and we consider the related consequences as appropriately managed.</p> <p>The magnitude of this type of risks is not significant due to the large geographical spread of our facilities.</p>

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

The Strategy and CSR Committee of the Board of Directors regularly tracks the implementation of short-, medium- and long-term programs. Leadership for this challenge is provided directly by the Vice President of Sustainable Development; this covers risks and opportunities. Below board level, climate related risks and opportunities processes are mainly managed by the following entities:

- a) The Sustainability Chief Officer, who is in charge of the coordination of the climate-related risks and opportunities. Tools used to reduce our CO2 emissions are the following:
 - an Energy, Atmospheric Emissions and Climate Change policy to reduce our energy consumption and greenhouse gas emissions, including medium-term targets, as well as corresponding organization, from facility to corporate. A water policy to reduce water withdrawal particularly for our sites located in water stressed areas.
 - an internal carbon price to speed up the Group’s transition to low-carbon technologies. Saint-Gobain has set two internal carbon price levels. The first is fixed at €30 per ton and applies to industrial investments. The second carbon price level of €100 per ton is used for R&D investment in breakthrough technology. This price level is of demonstrable value in supporting low-carbon R&D projects in particular. Setting such internal carbon price is a good case study for managing transition risk.

The CSO, in close relationship with our Marketing Department, has also in charge opportunities related to climate change: the trend of more insulation in building construction and water stress offers opportunities for our insulating and pipe activities.

The Sustainable Construction Department contributes to define the Group’s positioning on the sustainable construction markets, supports businesses and local teams to identify growth and

differentiation opportunities, develop their local sustainability roadmap and implement their action plans, and provides methodology and tools for sustainable solutions development. We have assessed that, after a use for an average of three months, the Saint-Gobain Group's insulation solutions offset the emissions linked to the whole of their life cycle.

b) entities in charge of assessing the risks associated with climate change and its consequences at Group level:

- the general objective of internal control is to make sure that the risks to which the Group is exposed are managed; for that purpose, a mapping analysis of the Groups' potential risk is updated on a yearly basis by the Internal Audit and Risk Management department. Climate change related risks are included in the mapping analysis of the Group's as material risk. The map of risks is presented to the Risk & Audit Committee and then validated by the Board of Directors

- The Risk and Insurance department manages risks of property damage and related business interruption (loss prevention and loss management). The Group deals with increased risks of loss due to climate change (flooding, rainfall or storm) within the scope of its industrial and distribution risks prevention policy. This takes into account the increase in extreme climate events, which specifically lead both to damage that may be caused to the facilities or stock and to interruptions in production or supplies. The degree of exposure and vulnerability of the sites to natural events is updated regularly through adapted audits and self-assessments. This leads to the definition and update of actions plan with a view to improving the level of prevention and protection. Facilities must apply the Group Loss Prevention Manual and Business Continuity Plans are defined at site level. A good case study regarding natural event risk management is how we have managed the flooding from the Loing and Seine rivers in 2016, applying existing Continuity Plans and leading to update of risk action plans as well as better considering this risk in our future investments.

c) Transversal functions such as R&D and Purchasing include climate related risks and opportunities in their processes:

- Innovation is our key driver, with 78,3M€ million spent on environment-related R&D in 2018. From 2016, a cross-functional R&D program, "Improvement in our CO2 footprint" coordinates and increases R&D efforts dedicated to improving the manufacturing processes, thus reducing GHG emissions. An Eco-Innovation approach and toolbox helps Businesses increase market shares of our products with an improved environmental and social impact.

- The risks of purchasing categories integrate environmental performance in particular carbon and water footprints. The mapping evaluation is based on international and recognized sources. It allows for the identification and evaluation of risks connected to suppliers and thus determines priorities for action and engages a constructive dialogue for improvement.

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

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

Since 2013, we have entered the Phase III of the EU-ETS (2013-2020). About 40% of our total scope 1 CO₂ emissions are concerned by the scheme. After the Phase III of the EU-ETS we can expect a decrease of the amount of free allocations we will receive, which would lead to increased operational costs. The uncertainty over the amount of quota allocated and the price of the carbon tons constitutes a risk. The cap and trade schemes outside Europe represent a minor part of our total scope 1 CO₂ emissions.

Time horizon

Long-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

30,000,000

Explanation of financial impact figure

Considering the lack of free credits using last updated knowledge of EU-ETS phase IV rules (some remaining uncertainties) and a cost of 25€/tCO₂ for EU allowance. Estimate on annual basis

Management method

We carry out a centralized monitoring to evaluate our CO2 position in the EU-ETS. CO2 emissions are estimated and communicated to our Purchasing Department which coordinates the operations on the registries. Environment, Purchasing, Finance and Doctrine functions are represented in a global steering committee covering all trading schemes. Our global CO2 steering committee is in charge of analyzing our CO2 position and managing the Group's allowances. An internal shadow carbon price for investment and R&D supports the development of low carbon technologies in order to reduce the potential financial risk.

The amount for cost of management is the one devoted annually for the CO2 steering committee

Cost of management

2,500

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Technology: Costs to transition to lower emissions technology

Type of financial impact

Capital investments in technology development

Company- specific description

We have to lead the transition toward lower emission technology to reduce the carbon footprint of our products and solutions and also reach our target objectives for CO2 emission reduction and energy consumption at facility level.

Time horizon

Current

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

17,500,000

Explanation of financial impact figure

Based on "Cumulative Cost Assessment (CCA) of the EU Glass Industry, EU, June 2017" using internal activity data for our main industrial activity (Glass).

Estimate on annual basis

Management method

Our facilities consider best available technologies and we have a specific cross-business R&D program for improving the CO2 footprint of our manufacturing processes. We also have set an internal carbon price to move faster towards lower emissions technologies.

We are using more and more green electricity (from energy certificates as well as from windfarm or solar projects for example in India)

The value given for cost management is the annual amount linked to our R&D budget for environment

Cost of management

78,300,000

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Supply chain

Risk type

Transition risk

Primary climate-related risk driver

Market: Increased cost of raw materials

Type of financial impact

Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment)

Company- specific description

We could face increase in costs of raw materials because of climate change (energy mix evolution, water scarcity, ...).

Energy shortage is a specific risk for activities that request a continuous process.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

9,300,000

Explanation of financial impact figure

Potential impact for the Group when the brent cost increases by 1USD/bbl. By increasing 1USD/bbl, we estimate that

- it increases the natural gas price by 0,3€/MWh, which leads to a 7M€ impact based on our natural gas consumption.
- 1M€ is additionally considered for our fuel consumption
- 1,3M€ is also added for the transportation cost for purchases and sales

Management method

The impact for the Group is medium due to the large geographical spread of its activities. For energy, we develop long-term contracts linked to renewable energy. For water, we reduce our dependency through lower consumption levels with a specific focus on water stressed areas.

The value given for cost of management is considered as the cost of two full-time equivalent for managing energy purchasing contracts at corporate level

Cost of management

91,000

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

This may affect some of our sites located in North and South America, Europe and northern Asia. Particularly at risk are the sites situated in floodplains in these areas , as well as those situated in areas prone to flash floods after torrential rains

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

62,500,000

Explanation of financial impact figure

In total in 2018 we registered 12,5 millions € losses due to climate-related events (one flood and rain event in France) and a major rain event in Egypt for more than 50M€. Another cost indication can be found in the main last event for the Group regarding flooding, which affected particularly 10 sites along the Loing and the Seine rivers in June 2016 in France. In total, 3,1 million € were lost (600 000€ for operating losses and 2,5 million € of damage).

Management method

The Saint-Gobain Loss Prevention policy gives a firm focus to this category of risks, whether in terms of choice of locations, of facility design and layouts, or in terms of risk mitigation in existing locations.

We are contracting with an external third party for prevention and engineering audits mapping the exposure of sites to natural hazards (flood, storm). The biggest sites are assessed annually and the others a bit less frequently.

In addition, each site has to fill annually an auto-evaluation risk grading which is a 300 question survey, covering potential climate risks including the place of location, facility design etc. An action plan can be derived for each potential risk. We are also currently

working with Axa to assess a flood risk mapping tool to identify priority sites and define action plans with those sites. The sites in exposed areas have to establish prevention, protection and reinforced Business continuity plan to reduce the closing time and to limit the loss of revenue.

The indicated cost management is linked to the contract that we have with Axa for improving our risk mapping

Cost of management

50,000

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Other

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Despite our facilities are spread over a large geographical perimeter, we may be concerned by chronic physical events at local level. We assess our exposure to chronic physical climate-related risks as for our acute physical risks. Drought is the main risk that we could face in the future.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

6,100,000

Explanation of financial impact figure

This amount illustrates the cost of a major investment that we have achieved for re-using water and decreasing the Group withdrawal by 12%. The main part of the investment is related to building appropriate mud decantation and water treatment reservoirs including water cooling towers, creating the conditions for reusing water from decantation.

Management method

Particular attention is paid to limiting the Group's withdrawals in water stressed areas. Saint-Gobain uses the World Resources Institute's "Aqueduct" atlas of the world, which allows each of the sites to classify its water risk from "low" to "extremely high". This atlas is based not only on qualitative and quantitative physical risks (such as water stress or flood risk), but also on stakeholder risk (like access to water). In 2018, some 60 sites withdrawing more than 5,000 m³ of water each year and representing around 11% of the Group's water withdrawals were located in high-risk or very high-risk areas. The Group aims at reducing water discharges by 80% between 2010 and 2025 at iso-production.

This water target covers the sites concerned by the environment (around 500 plants representative of the Group impact). Water stress is a criteria for entering in the scope. In-house water recycling is encouraged, particularly through the use of closed-loops, as it considerably limits withdrawals from natural resources. Our Water standard also requires that all sites identify the sources of water affected by withdrawals and discharges. Where natural sources are significantly affected, a detailed environmental impact study must be available.

The cost indicated for the management is linked to the management of the project illustrating the potential financial impact. It is estimated at around 10%.

Cost of management

600,000

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?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of recycling

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

Faced with a decline in raw materials, the sustainable management of resources makes it possible to ensure the competitiveness and continuity of the Group's activities by securing supplies and anticipating changes in legislation and the depletion of natural resources.

Some of the Group's products are indefinitely suitable for closed-loop recycling within their industrial process, as is the case for flat glass and plasterboard.

The use of recycled raw materials in processes makes it possible to reduce energy consumption, particularly for glass fusion. This reduction in energy consumption is accompanied by a reduction in CO₂ emissions (scope 1). The efforts made to transition to a circular economy will therefore have a positive effect on emissions.

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2,650,000

Explanation of financial impact figure

In the case of flat glass, energy consumption is reduced by 3% when the percentage of cullet is increased from 20% to 30% of raw materials.

The financial potential given is based on a 1% saving of natural gas for our flat glass activity.

Strategy to realize opportunity

Developed in 2015, the Sustainable Management of Resources policy aims to reduce the impact of the use of resources and their responsible management to favor the transition to a circular economy.

The Flat Glass Activity has optimized its logistics to promote the recovery of cullet across the entire value chain where the Group is present and especially between glass processing sites (manufacturing windshields or windows, for example) and glass furnaces. In addition to this, systems for recovering windshields or windows are being promoted in the countries where glass furnaces are capable of melting the post-consumer cullet collected.

The Commitment to Green Growth for flat glass signed by the trade associations in 2017 could lead to the collection and sorting of 80,000 tons of cullet per year in 2025 for the whole of the subsidiary in France.

The cost given for realizing the opportunity is the cost of one full-time equivalent for managing the cullet recycling at French level

On the international level, Saint-Gobain joined at the end of 2017 the Factor 10 program of the World Business Council for Sustainable Development relative to the circular economy.

Cost to realize opportunity

45,500

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Reduced water usage and consumption

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

We have a water program policy aiming at reducing our water consumption. By consuming less water we are less dependent on the sites most exposed to water scarcity and reduce the risk of production cost increase.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

22,000,000

Explanation of financial impact figure

As illustration, we have saved ~11Mm³ per year of withdrawn water between 2015 and 2017 thanks to water recycling projects. Using a 2€/m³ cost.

Strategy to realize opportunity

Through its signature of the CEO Water Mandate, Saint-Gobain forms part of the Alliance of Businesses for Water and Climate Change. This Alliance encourages signatories to measure their water footprint and to reduce their impact.

Through its water policy deployment, the Group has defined medium-term target with the reduction of its discharge by 80% in 2025 vs 2010, at iso-production.

The cost to realize opportunity illustrates the cost of a major investment that we have achieved for re-using water and being the main driver for the indicated potential cost.

Cost to realize opportunity

6,100,000

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of climate adaptation and insurance risk solutions

Type of financial impact

Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)

Company-specific description

Changes in precipitation patterns will change the distribution of surface water. Several semi-arid countries (e.g. Mediterranean basin, West of USA, Austral Africa, North East of Brazil,...), will be affected by a diminution of water resources. Consequently, the need for new water infrastructure may increase. This represents a potential sales increase for our Pipe business, which manufactures products for water-supply, irrigation and sewer networks.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

57,890,000

Explanation of financial impact figure

The provided data for the potential impact corresponds to 1% increase of our 2018 sales of our “exterior products” business which includes the pipe activity.

Strategy to realize opportunity

Our Pipe division monitors marketing, technical and environmental developments to identify infrastructure needs, environmental changes or new regulations that may increase demand

There is no specific cost to realize opportunity. The opportunity comes from the need of our customers due to the consequences of the climate change.

Cost to realize opportunity

0

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

The demand for low emission goods and services is increasing through stricter regulations and a shift of consumer preferences.

Our eco-innovation policy and our R&D investments are turned toward more product efficiency and low emission products.

For example we are working on lighter windshield to reduce CO2 emissions from cars, and also on adapting our offer to the development of hybrid or 100% electric vehicles. Another very relevant example is the strong benefit of using our building insulation products to decrease the energy consumption and its related CO2 emissions, supported by local/regional regulation. Local conditions may also increase the demand particularly in emerging countries (rapid urbanization, changing temperatures, rising sea levels,...). After a use for an average of three months, the Saint-Gobain Group's insulation solutions offset the emissions linked to the whole of their life cycle.

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

334,200,000

Explanation of financial impact figure

We are expecting increased demand for our wide range of sustainable products, notably for our products related to sustainable habitat solutions and energy efficiency. The habitat market currently represents around 80% of our total market, corresponding to sales of approximately 33420M€. An increase in demand of 1% could therefore increase Group sales by 334,2M€.

Strategy to realize opportunity

For the past 8 years, the Group has been ranked in the Top 100 Innovators by Clarivate. Since 2012, an eco-innovation approach is implemented to develop and distribute eco-friendly products, anticipating our customers' needs.

At the end of 2018, almost 750 employees, mainly in the marketing and R&D teams, have received eco-innovation training. We developed in 2017 the SCORE methodology analyzing a product over its life cycle from two perspectives:

- its environmental and social impacts, from the extraction of the raw materials until it leaves the factory;
- its contribution to making the building more sustainable.

The methodology covers a broad range of topics: global warming potential, energy consumption, energy savings, other carbon benefits (renewable energies, carbon capture).

Saint-Gobain is involved in local efforts to promote sustainable buildings by joining 42 Green Building Councils (GBCs), being a World GBC Europe Regional Network Partner, and a sponsor of World GBC's Better Places for People campaign, as well as a Corporate Advisory Board member (through our Sustainable Development VP).

We spent €451M on research and development expenses in 2018. A large part of this amount was dedicated to energy efficient products.

Cost to realize opportunity

451,000,000

Comment

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Participation in renewable energy programs and adoption of energy-efficiency measures

Type of financial impact

Increased reliability of supply chain and ability to operate under various conditions

Company-specific description

In the frame of our CO2 and energy policy, we have a target of 15% reduction of energy consumption in 2025 compared to 2010 at iso-production. Reaching this target will help the Group being more resilient in a worldwide context of fuel mix evolution

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

12,300,000

Explanation of financial impact figure

15% energy consumption reduction on natural gas (30€/MWh) and on electricity (50€/MWh). Plan of actions over 15 years. Annual amount considering our yearly natural gas consumption (~26GWh) and electricity consumption (~9,5GWh)

Strategy to realize opportunity

To reach this target, we are using our industrial equipment more closely to the technical limit to eliminate energy waste. All possible energy waste is tracked to be eliminated. The deployment of the World Class Manufacturing (WCM) program to all of the Group’s industrial sites is a driver for progress.

The Group encourages energy audits on its sites and at the end of 2018, 91 sites of the “environment concerned scope” were certified to ISO 50001.

In addition, a process of energy audits with the aim of improving the insulation of the Group’s production facilities has been launched.

Saint-Gobain places all its sites in a phase of continuous improvement. In this respect, they aim to identify and evaluate the Best Available Techniques (BAT) and Practices and then progressively upgrade them at an economically acceptable cost, in accordance with the Group’s environmental vision. A BAT deployment plan is defined, updated annually and included in the three-year strategic plan.

As example, in 2018, our Saltillo plastic site in Mexico made a project for adaptation of its energy consumption to its production levels, leading to a 18% reduction of its natural gas consumption.

Our cost to realize opportunity is linked to R&D investments related to environment/energy in 2018.

Cost to realize opportunity

78,300,000

Comment

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	We continued to develop in 2018 lighter windshield to reduce vehicle weight and lower the CO2 emissions of cars. Our acquisitions of building insulation products factories follow the needs of concerned countries.

		<p>National schemes for building energy efficiency, such as energy certificates in France, boost the sales of insulation products, depending on what is subsidized. The magnitude for this impact has been estimated as high.</p> <p>We are expecting increased demand for our wide range of sustainable products, notably for our products related to sustainable habitat solutions and energy efficiency. The habitat market currently represents around 80% of our total market, corresponding to sales of approximately 33420M€. An increase in demand of 1% could therefore increase Group sales by 334,2M€.</p>
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	<p>The Flat Glass Activity has optimized its logistics to promote the recovery of cullet across the entire value chain where the Group is present and especially between glass processing sites (manufacturing windshields or windows, for example) and glass furnaces. In addition to this, systems for recovering windshields or windows are being promoted in the countries where glass furnaces are capable of melting the post-consumer cullet collected. The magnitude for this impact has been estimated as low.</p> <p>In the case of flat glass, energy consumption is reduced by 3% when the percentage of cullet is increased from 20% to 30% of raw materials.</p> <p>The Commitment to Green Growth for flat glass signed by the trade associations in 2017 could lead to the collection and sorting of 80,000 tons of cullet per year in 2025 for the whole of the subsidiary in France.</p>
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	<p>Our acquisitions of building insulation products factories follow the needs of concerned countries. As example, in 2018, the Group increased its range of insulation solutions through the acquisition of Kaimann, one of the major European manufacturers of elastomeric insulation products</p> <p>In 2018, the Group acquired 27 entities for a total amount of €768 million</p> <p>The habitat market in emerging countries also offers significant growth opportunities for several reasons: rapid urbanization, increasing needs for infrastructure, consequences of rising sea levels. The magnitude for this impact has been estimated as high.</p>
Investment in R&D	Impacted	<p>In 2018, the Group invested €451 million in research and development, and the work of our 3,700 R and D employees resulted in applications for nearly 400 new patents. For the eight year running, Clarivate Analytics ranked Saint-Gobain among its</p>

		<p>Top 100 Global Innovators.</p> <p>We have the cross-business R&D program, “Improving our CO2 footprint” to coordinate and expand research and development efforts devoted to improving manufacturing processes with a view to reducing their greenhouse gas emissions. We have also other programs linked to oven combustion and raw material that are strongly linked to climate change and energy efficiency.</p> <p>The magnitude for this impact has been estimated as medium.</p>
Operations	Impacted	<p>The deployment of our environment policies at our production units has already brought some results, linked to implementation of best practices and investments (84.1M€ spent for environment in 2018). 2018 results compared to 2025 target (baseline 2010, at iso-production):</p> <ul style="list-style-type: none"> - Energy consumption: 2,9% reduction for a 15% target - CO2 emissions: 11,7% reduction for a 20% target - Water discharge: 35% reduction for a 80% target <p>In total in 2018 we registered 12,5 millions € of damage and subsequent operating losses due to climate-related events, as well as a major claim in excess of 50M€ for an event of rain in Egypt.</p> <p>The magnitude for this impact has been estimated as medium.</p>
Other, please specify		

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	<p>Currently, 75% of European buildings have been constructed before the implementation of energy efficiency standards. We can get more revenues from an increased number of sales. We can also increase our sales through the access to emerging markets: in 2018, we realized our higher growth rates in emerging countries: we reported 14,1% organic growth in Latin America and 7,7% in Africa-Middle East. We have examples of insulation products for which national schemes for building energy efficiency boost the demand, and for which further development are/have been planned.</p> <p>The habitat market currently represents around 80% of our total market, corresponding to sales of approximately 33420M€. An increase in demand of 1% could therefore increase Group sales by 334,2M€. The magnitude for this impact has been estimated</p>

		<p>as high.</p> <p>Our eco-innovation policy and our R&D investments are turned toward more product efficiency and low emission products. Means are put within the Group to train R&D and marketing teams, and eco-innovation is an input of our R&D investments planning. As this is a strategic priority for the Group, more than 750 employees (50 more than in 2017), mainly in the marketing and R&D teams, have received eco-innovation training in 2018.</p> <p>Changes in precipitation patterns will change the distribution of surface water. Consequently, the need for new water infrastructure may increase. This represents a potential sales increase for our Pipe business, which manufactures products for water-supply, irrigation and sewer networks. 57,89M€ corresponds to 1% increase of our 2018 sales of our “exterior products” activity which includes the pipe business.</p> <p>Note that we have not yet been impacted by EU-ETS (Emissions Trading Scheme). Our position, including forecast, is constantly updated by Purchasing department and shared with the CO2 committee to manage the related risk. More generally, carbon prices, originated from different regional regulations in force, such as EU-ETS, are integrated into our 5-years business plans by the Corporate Planning and Economic Research Department.</p>
Operating costs	Impacted for some suppliers, facilities, or product lines	<p>The Flat Glass Activity has optimized its logistics to promote the recovery of cullet across the entire value chain where the Group is present and especially between glass processing sites (manufacturing windshields or windows, for example) and glass furnaces. In addition to this, systems for recovering windshields or windows are being promoted in the countries where glass furnaces are capable of melting the post-consumer cullet collected. The recycling rate is an input for the need of raw material. A 1% saving of natural gas for our flat glass activity corresponds to a 2,65M€ saving. The magnitude for this impact has been estimated as low.</p> <p>Regarding energy supply cost, we are developing long-term energy contracts based on renewables (as example from windfarm or solar projects in the US or in India). Such possible contracts are now considered by our energy purchasers.</p>
Capital expenditures /	Impacted	The deployment of our environment policies at our production units has already brought some results, linked to

<p>capital allocation</p>		<p>implementation of best practices and investments (84.1M€ spent for environment in 2018). 2018 results compared to 2025 target (baseline 2010, at iso-production):</p> <ul style="list-style-type: none"> - Energy consumption: 2,9% reduction for a 15% target - CO2 emissions: 11,7% reduction for a 20% target - Water discharge: 35% reduction for a 80% target <p>The investment planning is made by considering those results as input. We develop several programs, as for example ORC turbines installation for energy recovery of our Glass activity. In addition, our process of validating investment has integrated the use of an internal carbon price to speed up the Group's transition to low-carbon technologies. It allows for the assessment of the current or potential impact of a regulatory carbon price on the Group's activities, identification of opportunities for growth in low-carbon sectors, refocusing investments in manufacturing and R and D, and ranking actions to reduce CO2 emissions. Saint-Gobain has set two internal carbon price levels. The first is fixed at €30 per ton and applies to industrial investments above a certain threshold, investments associated with a change in energy source, energy investments on an existing or greenfield site with a total annual energy consumption of more than 10GWh. The second carbon price level of €100 per ton is used for R&D investment in breakthrough technology. The magnitude for this impact has been estimated as medium.</p>
<p>Acquisitions and divestments</p>	<p>Impacted for some suppliers, facilities, or product lines</p>	<p>Our acquisitions of building insulation products factories follow the needs of concerned countries. Indeed, the habitat market offers significant growth opportunities for several reasons: rapid urbanization, increasing needs for infrastructure, consequences of rising sea levels. The magnitude for this impact has been estimated as high. In 2018, the Group acquired 27 entities for a total amount of €768 million. As example, in 2018, the Group increased its range of insulation solutions through the acquisition of Kaimann, one of the major European manufacturers of elastomeric insulation products.</p>
<p>Access to capital</p>	<p>Not yet impacted</p>	<p>Saint-Gobain benefits from favorable market conditions to optimize the cost of funding. It has for example successfully launched a € 1.5 billion bond issue in March 2019, and thus does not necessarily need for now to solicit green bonds nor equivalent specific ESG financing. That's why Saint-Gobain considers that its access to capital is not yet impacted by climate-related risks and opportunities.</p>

Assets	Impacted for some suppliers, facilities, or product lines	<p>Some of our assets such as plants or facilities could be severely affected by the increased severity of extreme weather events such as cyclones and floods. We have a large number of facilities located in 67 countries so the risk is diversified and the financial impact moderated in relation to the global value of assets and business. The Saint-Gobain Loss Prevention policy gives a firm focus to this category of risks, whether in terms of choice of locations, of facility design and layouts, or in terms of risk mitigation in existing locations.</p> <p>We are contracting with an external third party for prevention and engineering audits mapping the exposure of sites to natural hazards (flood, storm). In addition, each site has to fill annually an auto-evaluation risk grading. An action plan can be derived for each potential risk. We are also currently working with Axa to assess a flood risk mapping tool to identify priority sites and define action plans. The sites in exposed areas have to establish prevention, protection and reinforced Business continuity plan to limit the closing time and to limit the loss of revenue. In total in 2018 we registered 12,5 millions € damage and related business interruption due to climate –related events (one flood and one rain event in France) as well as a claim for more than 50M€ for a major rain event in Egypt. The magnitude for this impact has been estimated as medium.</p>
Liabilities	Not yet impacted	<p>Saint-Gobain has not reported any increased insurance claims liability arising from climate-related impacts. That's why Saint-Gobain considers that its liabilities are not yet impacted by climate-related risks and opportunities.</p>
Other		

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

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

Yes, qualitative and quantitative

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

Our ambition is to become the leader in sustainable construction by leading the decarbonization of the construction sector. The Group has set ambitious targets to tackle climate change, seize the opportunities linked to a more sustainability-oriented market and accelerate its transition to low-carbon technologies in its operations. The challenge of climate change is one of the Group's strategic challenges and the first long term priority area for CSR. Given our markets and our strategic focus on sustainable construction, this challenge presents both risks and opportunities. The Strategy and CSR Committee of the Board of Directors regularly tracks the implementation of short-, medium- and long-term programs. Leadership for this challenge is provided directly by the Vice President of Sustainable Development; this covers risks and opportunities. Saint-Gobain's objective is to continue to increase the benefits associated with the use of its products and solutions while reducing the carbon impact of its activities. The Group's strategy is thereby embedding a transition to a low-carbon economy through control of risk and the development of new market opportunities. The Group responds to market opportunities associated with the challenge of climate change through its sustainable construction strategy. Priority lines of action, like reducing our carbon footprint or improving energy efficiency, have been defined in line with Group policies and market expectations with the objective to reduce our CO₂ emissions of our operations by 20% by 2025 (2010 baseline at iso-production) and our energy consumption by 15% (2010 baseline at iso-production). Risk management involves four major actions:

- a cross-business R and D program, "Improving our CO₂ footprint": to coordinate and expand research and development efforts devoted to improving manufacturing processes with a view to reducing their greenhouse gas emissions. Innovation is our key driver, with 78,3M€ million spent on environment-related R and D in 2018.
- an internal carbon price: to speed up the Group's transition to low-carbon technologies. It allows for the assessment of the current or potential impact of a regulatory carbon price on the Group's activities, identification of opportunities for growth in low-carbon sectors, refocusing investments in manufacturing and R and D, and ranking actions to reduce CO₂ emissions. Saint-Gobain has set two internal carbon price levels. The first is fixed at €30 per ton and applies to industrial investments above a certain threshold, investments associated with a change in energy source, energy investments on an existing or greenfield site with a total annual energy consumption of more than 10 GWh. The second carbon price level of €100 per ton is used for R and D investment in breakthrough technology. This price level is of demonstrable value in supporting low-carbon R and D projects in particular;
- an Energy, Atmospheric Emissions and Climate Change policy: to reduce the energy consumption and the greenhouse gas emissions of its industrial processes, its infrastructures and its transport on all of its sites;
- an assessment of the risks associated with climate change and its consequences at Group level.

Saint-Gobain fully supports the Paris Agreement, including the implementation of the 2°C scenario. Two years after having signed the Paris Agreement, we co-signed the « French Business Climate Pledge » during the One Planet Summit on December 12, 2017 engaging ourselves to reinforce our climate engagements for 2020 and to lead the transition to a low-

carbon economy. Furthermore, we also fully support the establishment of SBT trajectory for the Construction sector. No methodology has yet been published for setting emissions reduction targets for the construction industry. This item of data is essential for Saint-Gobain to position its contribution and its impacts, both positive and negative, on a 2°C trajectory. Saint-Gobain has mobilized and committed as part of the Global Alliance for Building and Construction, in tandem with other players in the construction value chain, and the support of “We Mean Business” and the CDP to develop a SBT compliant methodology for the construction sector. This approach should allow for the definition of an approach to a low-carbon trajectory for the construction market. We nevertheless already committed to set science-based targets and had them validated in April 2019. Those targets are complementary to the ones set internally for intensity and are as follows: - Saint-Gobain commits to reduce absolute scope 1 and 2 GHG emissions 10 % by 2025 from a 2017 base-year. - Saint-Gobain commits to reduce absolute scope 3 GHG emissions 10% by 2025 from a 2017 base-year. This covers our emissions from “Purchased goods and services”, “Fuel and energy related activities”, “Upstream transportation and distribution”, “Downstream transportation and distribution” and “End-of-life treatment of sold products”

We also support TCFD recommendations; a correspondance table has been set up between TCFD recommendations and our registration document (see https://www.saint-gobain.com/sites/sgcom.master/files/tcfd_correspondance_table_2018.pdf). As a global leader in sustainable construction, Saint-Gobain intends to fully contribute to these objectives through the Global Alliance for Building Construction. In 2015, Saint-Gobain has developed a methodology to estimate GHG emissions saved when using its insulation solutions in Europe. In 2017 we updated the results for 2016 not only for Europe but worldwide. Results show that from 3 months’ use, our solutions, on average, offset production-related emissions. Beyond those 3 months, the savings continue to accumulate. This study demonstrates our positive contribution to reducing global GHG emissions. Thus, the benefits provided by the Group’s thermal insulation and insulating glazing, in terms of energy consumption and greenhouse gas emissions, significantly exceed their production-related emissions. We are also putting the emphasis on the acceleration of circular economy; Countries and businesses must define a roadmap for developing the circular economy with three priorities: have maximum recycled content in their products; generate a minimum of production residues; recover internally or externally the waste resulting from these processes. At the international level, at the end of 2017, Saint-Gobain joined the circular economy World Factor 10 program from the World Business Council for Sustainable Development.

C3.1d

(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios	Details
2DS	Our validated SBT targets are: - Saint-Gobain commits to reduce absolute scope 1 and 2 GHG emissions 10 % by 2025 from a 2017 base-year. - Saint-Gobain commits to reduce absolute scope 3 GHG emissions 10% by 2025 from a 2017 base-year. This covers our emissions from “Purchased goods and

	<p>services”, “Fuel and energy related activities”, “Upstream transportation and distribution”, “Downstream transportation and distribution” and “End-of-life treatment of sold products”</p> <p>For setting up those targets, we have used for scope 1 and 2 the SDA Method for “Other sector” (of February 2017). For scope 3 emissions, we used the absolute contraction option.</p> <p>We decided to set-up a target for 2025 because it is in line with our previous internal intensity target of -20% for scope 1 and 2 emissions at iso-production in 2025 compared to 2010, at iso-production. We are presently leading a reflexion on our environmental targets beyond 2025.</p> <p>For scope 1 and 2 SBT absolute targets, we will pursue our efforts made in the frame of our scope 1 and 2 intensity target at facility level using the different levers: energy efficiency and recovery and low carbon investments, green energy purchases, R and D breakthrough technologies.</p> <p>For scope 3 emissions, we will pursue our efforts in the different areas managing our value chain:</p> <ul style="list-style-type: none"> - Purchasing: substitution for less emissive raw materials - Transportation: optimization of logistics (for example less trucks running empty) and use of greener fuels. As example our construction products distribution entity in Norway has moved in 2018 to biofuel use for its trucks. - Use of sold products: continuing to make lighter car windshields (despite those products are considered as indirect use-phase emissions and therefore not considered by the SBT initiative for setting-up scope 3 emissions targets) - Products end-of-life: increase for our recycling through our circular economy roadmaps. <p>Our Marketing and Sustainable Construction Team is also fully involved in increasing the use of our sustainable insulation solutions. Indeed, the benefits provided by the Group’s thermal insulation and insulating glazing, in terms of energy consumption and greenhouse gas emissions, significantly exceed their production-related emissions.</p>
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C4. Targets and performance

C4.1

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

Both absolute and intensity targets

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

Targeted % reduction from base year

10

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

12,954,951

Target year

2025

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

99

Target status

New

Please explain

This variation is mainly due to our improvement on our intensity target (efficiency and green energy)

Target reference number

Abs 2

Scope

Scope 3 (upstream & downstream)

% emissions in Scope

94

Targeted % reduction from base year

10

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

13,280,000

Target year

2025

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

0

Target status

New

Please explain

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

Targeted % reduction from base year

20

Metric

Metric tons CO2e per unit of production

Base year

2010

Start year

2011

Normalized base year emissions covered by target (metric tons CO2e)

17,438,524

Target year

2025

Is this a science-based target?

No, but we are reporting another target that is science-based

% of target achieved

59

Target status

Underway

Please explain

Saint-Gobain has set mid-term objectives to reduce CO2 emissions (scope 1+2) by 20% by 2025 compared to 2010, at iso-production. We have achieved a 11,7% reduction over 2010-2018.

% change anticipated in absolute Scope 1+2 emissions

-39

% change anticipated in absolute Scope 3 emissions

0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

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	52	

To be implemented*	0	0
Implementation commenced*	6	16,050
Implemented*	6	14,167
Not to be implemented	0	0

C4.3b

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

Initiative type

Energy efficiency: Building fabric

Description of initiative

Maintenance program

Estimated annual CO2e savings (metric tonnes CO2e)

1,200

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

190,000

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

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Reduction of the energy consumption by reducing the planned shutdown for cleaning line 1 & 2 from 36 hours to 28 hours each.

Initiative type

Energy efficiency: Processes

Description of initiative

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

150

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

3,500

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

0

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Modification of the gas ovens burning programs so that after a cycle completion, it slowly turns off automatically.

Initiative type

Energy efficiency: Processes

Description of initiative

Heat recovery

Estimated annual CO₂e savings (metric tonnes CO₂e)

7,700

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1,250,000

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

5,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

1,2 MW ORC installation for electrical generation

Initiative type

Energy efficiency: Processes

Description of initiative

Heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

4,800

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

827,000

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

7,000,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

1,2 MW ORC installation for heating generation

Initiative type

Energy efficiency: Building services

Description of initiative

Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

240

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

136,000

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

300,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Replacement of electric motors

Initiative type

Energy efficiency: Processes

Description of initiative

Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

77

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

16,000

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

5,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Cooling fans installation for cooling down bearings of the fans

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	<p>Compliance with regulatory requirements is of course a key driver to invest in emissions reduction activities. The Corporate Legal Department ensures general environmental regulatory watch while the Corporate Environment, Health and Safety Department works on anticipating the specific climate change regulations and assessing the related impacts on the Group activities. At asset level, the facility EHS representatives are informed by their Legal and Tax Department about any new law or regulation related to environment, including climate change.</p> <p>Saint-Gobain places all its sites in a phase of continuous improvement. In this respect, they aim to identify and evaluate the Best Available Techniques (BAT) and Practices Available and then progressively upgrade them at an economically acceptable cost, in accordance with the Group's environmental vision. A BAT deployment plan is defined, updated annually and included in the three-year strategic plan.</p>
Dedicated budget for energy efficiency	<p>The Group has defined research and development programs to especially improve the energy efficiency of our manufacturing processes such as our "Innovative Furnaces and Glass" program. We also have a "Green Chemistry" program that may improve energy efficiency through raw material management and above all the "Improving our CO2 footprint» program aiming to coordinate and expand research and development efforts devoted to improving manufacturing processes with a view to reducing their greenhouse gas emissions. In total, we invested 78,3 million € in 2018 in our environment cross-business R&D programs.</p> <p>We are also leading actions on sites to reach our target of minus 15% energy consumption in 2025 like the Tip check deployment (audits regarding industrial tools insulation), specific energy investments (as the Glass activity program to invest in ORC turbines to maximize energy efficiency by limiting waste heat recovery).</p> <p>Finally, the Group is encouraging energy audits on its sites and is setting up a system for energy management drawing on ISO 50001 certification. At the end of 2018, 91 sites of the "environment concerned perimeter" were certified to ISO 50001, compared with 86 a year earlier.</p>
Dedicated budget for low-carbon product R&D	<p>The cross-functional R&D program, "Improvement in our CO2 footprint", also includes an energy component: recovery of lost energy and research into the use of new, low-carbon forms of energy (such as</p>

	<p>biogas or hydrogen).</p> <p>Saint-Gobain also initiated R&D programs to improve the environmental performance of its products portfolio. The “Low Carbon Cement-based Materials” program is one of the best example.</p>
Dedicated budget for other emissions reduction activities	<p>In addition of its environmental targets (CO2, energy, water discharges and non-recovered waste), the Group has set emissions target for dust, NOx and SO2 emissions (-20% in 2025 vs 2010 at iso-production). This leads to the allocation of R&D budget (for example through the program: “Innovative Furnaces and Glass”) and to some investments in plant to upgrade/install depollution units.</p>
Internal incentives/recognition programs	<p>The Environment Emerald Awards, launched in 2010, is a ceremony that rewards Saint-Gobain sites for carrying out projects that reduce their environmental impact and/or that of their manufactured products. Those projects have to address one of the following environmental issues: climate change, water, waste, atmospheric emissions, other (such as biodiversity, soil, noise, smell or visual Impacts). As example, in 2019, focusing on 2018 results, two sites were awarded regarding energy and CO2: one plastic site in Mexico which adapted its energy consumption to its production needs and one insulation site in Romania which substituted fossil fuel by biomass.</p>
Internal incentives/recognition programs	<p>The CARE:4 label project aims to tackle four challenges: to reduce the carbon footprint of the Group’s buildings, to improve the comfort and well-being at work of the Group’s employees, to develop a customer-oriented culture through real-life laboratories and to inspire the market with success stories showcasing the Group’s solutions. Each project’s objectives are defined in alignment with the best local standard if there is one (i.e. Passivehaus in Germany, Effinergie in France) and based on a locally devised benchmark. In 2018, 2 new Saint-Gobain buildings received the CARE:4® label, bringing to 36 the number of buildings recognized internally for their energy performance.</p> <p>The new headquarters of the Group (“La Tour Saint-Gobain”) are being built to become operational in 2019. It should become the best tower of La Défense in terms of energy efficiency and targets to meet criteria of several certifications (HQE, BREEAM, LEED).</p>
Internal incentives/recognition programs	<p>From 2007, Saint-Gobain applies the World Class Manufacturing (WCM) program, an integrated management system designed to improve business performance by seeking industrial excellence in accordance with world standards. Its ambition is to enhance the performances of each industrial sites of the Group, through the implementation of high safety standards, high product quality, their economic performance, but also through their energy/environmental impact and involvement. On-site performance is measured by quantitative indicators but also through satisfaction assessments of all</p>

	<p>stakeholders involved, particularly the Group's employees and customers. In regards to energy/environmental standards, the WCM program is compliant with ISO 14001 and 50001. The Quality, Industrial Performance and Environment pillars contribute significantly towards reducing the Group's environmental footprint by reducing waste generated in production and water consumption and by optimizing energy efficiency; More than 5,800 managers are trained in the WCM program and 60% of employees of the industrial sites are involved in the application of this program.</p>
<p>Internal price on carbon</p>	<p>To speed up the Group's transition to low-carbon technologies, an internal carbon price is in place since beginning of 2016. It allows for the assessment of the current or potential impact of a regulatory carbon price on the Group's activities, identification of opportunities for growth in low-carbon sectors, refocusing investments in manufacturing and R&D, and ranking actions to reduce CO2 emissions. Saint-Gobain has set two internal carbon price levels. The first is fixed at €30 per ton and applies to industrial investments above a certain threshold, investments associated with a change in energy source, energy investments on an existing or greenfield site with a total annual energy consumption of more than 10 GWh. The second carbon price level of €100 per ton is used for R&D investment in breakthrough technology. This price level is of demonstrable value in supporting low-carbon R&D projects in particular.</p>
<p>Employee engagement</p>	<p>The Sustainable Development department organizes every two years a day to sensitize all the employees to Environment, Security and Hygiene through workshops.</p> <p>We also launched the initiative "Big little moves" which is a guidebook and also a group on Saint Gobain's internal online portal with all environmental friendly actions which can be easily implemented on every Saint Gobain's sites. Everyone can share their best practices on the online group and can be featured in the actionbook.</p> <p>Since 2017, more than 2250 top managers have seen CO2 emission reduction target (as well as 2 other CSR criteria) being part of the evaluation of their remuneration bonus.</p>

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

Company-wide

Description of product/Group of products

The products considered in the calculation are insulation products for the exterior walls (opaque and glazed) of a building: -Glass wool, stone wool and expanded polystyrene (EPS) insulation -“Low-e” insulating glazing. Other products used for fire protection, industrial heating systems, partition walls, interior design, decoration, etc. are not included in the calculations. The sales data considered are those of the calendar year 2016. The calculation only covers energy savings made on heating requirements and excludes cooling and air-conditioning gains.

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

EY and Saint-Gobain methodology

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

80

Comment

The products sold worldwide in 2016 allowed an avoidance of 1251.1 million tons eq CO₂ over their entire lifetime.

The construction of the calculation methodology together with the selection of different calculation parameters were made in association with EY's Sustainable Performance & Transformation department. GHG net saving is calculated as the difference between: - GHG emission savings obtained by using Saint-Gobain-type products compared to the use of a reference product - Emissions associated with the lifecycle of the Saint-Gobain product in question. WHERE: -The baseline for calculating the gain is the absence of insulation, ie non insulated wall or a simple or double glazing without coating. -The emissions related to the Saint-Gobain product's lifecycle are available via the LCA models developed by Saint-Gobain, or directly in the Environmental Product Declarations (EPD). Products sold and installed in 2016 will enable savings over a period which exceeds one year. The period thus considered is based on the reference service life used for the lifecycle assessment of the insulation products considered, namely: -30 years for glazing -50 years for wall insulation products. During three months' use the Group's solutions, on average offset production-related emissions. Beyond those three months, the savings continue to accumulate.

The % of revenues provided corresponds to our % of sales linked to habitat products.

Level of aggregation

Group of products

Description of product/Group of products

SageGlass® is an electronically tintable glass for windows, skylights and curtain walls.

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

EY and Saint-Gobain methodology

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

Comment

SageGlass® is highly energy efficient to operate, using less energy than necessary to power a 60-watt incandescent light bulb to control 2,000 square feet of SageGlass® glazing. With 20% cooling energy savings, 30% and up to 60% lighting reduction, SageGlass® glazing achieves increasing levels of energy performance, beyond the prerequisite standards.

Level of aggregation

Group of products

Description of product/Group of products

Panoramic lightweight windshields

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

EY and Saint-Gobain methodology

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

Comment

The weight of the windshield has been reduced by 30%, allowing to reduce the energy consumption of the equipped vehicles. For instance, SGS Coolcoat windshields have approximately twice the performance as today's heat-reflecting products. The amount of heat entering a car with green tinted standard glazing is 65%, whereas it is only 40% with CoolCoat. Consequently, the interior stays cooler, the air conditioning runs less and comfortable temperatures are reached faster. SGS CoolCoat reduces the AC load and saves fuel by about 0.1 liter per 100 km corresponding to 1.6 grams CO2 per km.

Level of aggregation

Group of products

Description of product/Group of products

Internal thermal insulation

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

EY and Saint-Gobain methodology

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

Comment

Isoduo 36 is a good example being the first composite insulation material with wood fiber reinforced with glass wool. Isoduo 36 contains a low quantity of binder and 40% of recycled glass. Isoduo 36 saves 130 times more energy than conventional products during its entire lifetime.

Level of aggregation

Group of products

Description of product/Group of products

Plaster board insulation solutions

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

EY and Saint-Gobain methodology

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

Comment

For example, Rigitone Climafit boards have a unique thermal conductivity level of 0.52 W/(m · K) in accordance with DIN EN 12664. This increases the efficiency of the temperature control effect in the magnitude of 15 - 35% (in watts). Climafit ceiling boards also offer the usual advantages of Rigips boards: they are easy to install, highly flexible, tested for building biology aspects, clean and environmentally friendly.

Level of aggregation

Group of products

Description of product/Group of products

External thermal insulation

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

EY and Saint-Gobain methodology

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

Comment

In the mortars business, ETICS (External Thermal Insulation Compounds System) is an insulating solution for the building envelope. Weber ETICS provides active insulation by preventing heat flow through walls and around windows, doors and other openings. The product cuts energy consumption and CO2 emissions from heating and cooling.

Level of aggregation

Group of products

Description of product/Group of products

Energy Evaluation Services

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

EY and Saint-Gobain methodology

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

Comment

The entities distributing our building products also provide innovative services such as Cap Renov+, a simulator that provides the option of immediate energy efficiency evaluation and calculation of the tax incentives for which the end customer may be eligible.

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, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO₂e)

12,976,886

Comment

Scope 2 (location-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO₂e)

4,461,638

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

Bilan Carbone

European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

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

Other, please specify

see next question

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

For our reporting we are following the recommendations given by the GRI G4. Concerning the national electricity emission factors, we are using the IEA (International Energy Agency) program.

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)

8,581,722

Start date

January 1, 2018

End date

December 31, 2018

Comment

Our global Scope 1 emissions decreased by 1,7% at isoproduction between 2017 and 2018 for the sites belonging to the environment concerned perimeter (sites covering around 95% of the Group environmental impact).

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 have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

Comment

We use a market-based approach only for purchased green electricity whenever we have a Renewable Energy Certificate.

C6.3

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

Reporting year

Scope 2, location-based

3,082,612

Start date

January 1, 2018

End date

December 31, 2018

Comment

Our global Scope 2 emissions decreased by 6.9% at isoproduction between 2017 and 2018 for the sites belonging to the environment concerned perimeter (sites covering around 95% of the Group environmental impact).

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?

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

4,655,000

Emissions calculation methodology

1- Types and sources of data: based on raw materials cartography. Emission factors for raw material based on LCA software (Team and GaBi) or supplier data or production data. 2- Data quality : medium quality 3- Methodology : Saint-Gobain internal method Assumption : only the most emissive raw material are counted

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

60

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Capital goods

Evaluation status

Not relevant, explanation provided

Explanation

The most emissive capital goods (ovens) are purchased to companies belonging to our Group; their main emissions are already accounted within our scope 1 and 2.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,615,000

Emissions calculation methodology

1- Types and sources of data - Activity data: energy consumption - Emission factors: for fuel from Ademe; for electricity national emission factor (ADEME) and T&D losses % (World data bank) - GWP: IPCC Fourth report 2- Data quality - high quality internal accounting 3- Methodology - Saint-Gobain internal method based on ISO 14064-1 - Assumption: same emission factor in all countries for fuels

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

340,000

Emissions calculation methodology

1- Types and sources of data: Purchasing and activity data: money spend for transportation and fuel consumption - Emission factors: ADEME 2- Methodology: Saint-Gobain internal method. 3-data quality: medium- Assumption: 20% of our transportation cost relate to the upstream transportation.

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Explanation

As we mainly produce inert waste recycled for the main part in internal processes we do not consider "Waste generated in operations" in our Scope 3 emissions. Emissions due to generated waste are not significant.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

90,000

Emissions calculation methodology

1- Types and sources of data - Activity data: distances for air train and road (only rental car) provided by our travel agency - Emission factors: GHG Protocol v2 - GWP: IPCC Fourth report 2- Data quality - high quality 3- Methodology - Saint-Gobain internal method based on ISO 14064-1

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

100

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

240,000

Emissions calculation methodology

1- Types and sources of data - Activity data: the number of employees and their trips in France - Emission factors: GHG protocol v2 - GWP: IPCC Fourth report 2- Data quality - poor quality 3- Methodology - Saint-Gobain internal method based on ISO 14064-1 - Assumption: we make an automatic calculation based on the number of employees that is using a motorized vehicle and the context of the sites (rural or urban) and we make an extrapolation from France data.

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Upstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

230,000

Emissions calculation methodology

1- Types and sources of data - Activity data: % of leased building - energy consumption for this building - Ademe emissions factors 2- Data quality: Medium quality 3- Methodology: Saint-Gobain internal method.- We only consider the building.

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

1,360,000

Emissions calculation methodology

1- Types and sources of data: Purchasing and activity data : money spend for transportation and fuel consumption - Emission factors : ADEME 2- Methodology : Saint-Gobain internal method. 3-data quality : medium- Assumption : 80% of the road transportation relate to downstream transportation

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Processing of sold products

Evaluation status

Not relevant, explanation provided

Explanation

Saint-Gobain does not sell intermediary products to be manufactured by third parties
This source of emission is therefore not relevant.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

3,840,000

Emissions calculation methodology

1- Types and sources of data- Customers data: % of our products in the final product and emission of their products. 2- Data quality: medium quality 3- Methodology: Saint-Gobain internal method - Assumption : only one type of products (glass for car) has an important CO2 emission during its use. We made a global extrapolation from the Europe's sales of our product

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

50

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

910,000

Emissions calculation methodology

1- Types and sources of data - Activity data: annual production coupled to Ademe emissions factors and hypothesis of end of life per product 2- Data quality: Medium quality 3- Methodology: Saint-Gobain internal method.- We only consider construction and flat glass products

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

0

Explanation

In 2018, the Group began updating its Scope 3 evaluation, making the methodology and data more robust for each category. This will be visible for next year reporting

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Saint-Gobain does not lease a significant number of assets to third parties.

Franchises

Evaluation status

Not relevant, explanation provided

Explanation

Saint-Gobain does not operate a significant number of franchises.

Investments

Evaluation status

Not relevant, explanation provided

Explanation

Saint-Gobain does not operate as a financial institution. The main investments in new businesses are accounted under Scope 1 or Scope 2.

Other (upstream)

Evaluation status

Explanation

Other (downstream)

Evaluation status

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered 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

0.00028

Metric numerator (Gross global combined Scope 1 and 2 emissions)

11,664,334

Metric denominator

unit total revenue

Metric denominator: Unit total

41,774,000,000

Scope 2 figure used

Location-based

% change from previous year

12.5

Direction of change

Decreased

Reason for change

Emission reduction activity : Improved CO₂ performance and higher revenues. Our global Scope 1+2 emissions decreased by 3,1% at isoproduction between 2017 and 2018 for the sites belonging to the environment concerned perimeter (sites covering around 95% of the Group environmental impact).

C7. Emissions breakdowns

C7.1

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

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO ₂ e)
Albania	65
Algeria	0
Argentina	16,785
Australia	383
Austria	29,880
Belgium	40,828
Bhutan	25,791
Botswana	133
Brazil	511,515
Bulgaria	539
Canada	198,062
Chile	94
China	605,482
Colombia	100,613
Czechia	192,595
Denmark	127,338
Egypt	100,298
Estonia	43
Finland	68,545
France	1,110,657
Germany	820,366
Ghana	0
Greece	3,192
Hungary	20,571
India	628,274

Indonesia	44,638
Ireland	46,065
Italy	174,158
Japan	55,619
Jordan	0
Kuwait	407
Latvia	0
Lebanon	1,534
Lithuania	426
Luxembourg	132
Malaysia	19,984
Mexico	271,508
Morocco	90
Netherlands	64,946
New Zealand	0
Norway	128,424
Oman	0
Peru	0
Poland	320,868
Portugal	45,978
Qatar	487
Romania	143,503
Russian Federation	202,179
Saudi Arabia	17,867
Serbia	467
Singapore	0
Slovakia	1,809
Slovenia	983
South Africa	47,407
Democratic People's Republic of Korea	244,109
Spain	357,697
Sweden	76,629
Switzerland	14,513
United Republic of Tanzania	8,020
Thailand	65,154

Turkey	128,993
United Arab Emirates	16,504
United Kingdom of Great Britain and Northern Ireland	383,228
United States of America	998,291
Venezuela (Bolivarian Republic of)	76,564
Viet Nam	17,778
Zimbabwe	2,714

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO ₂ e)
Glass Activity	4,349,393
Pipe Activity	928,542
Other	3,303,787

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)	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)
Albania	2		241	
Algeria	0		0	
Argentina	11,717		31,161	
Australia	1,891		2,493	
Austria	4,689		31,076	
Belgium	4,597		26,758	
Bhutan	2,506		86,419	
Botswana	2		2	
Brazil	76,423		984,827	

Bulgaria	461		977	
Canada	34,729		164,887	
Chile	415		938	
China	324,727		516,157	
Colombia	8,836		45,947	
Czechia	147,806		279,368	
Denmark	160		87,081	86,304
Egypt	14,018		30,507	
Estonia	29,804		31,612	
Finland	933		134,008	126,003
France	65,446		1,284,736	33,407
Germany	310,514		712,146	17,834
Ghana	0		0	
Greece	834		1,602	
Hungary	1,951		7,160	
India	306,724		438,597	18,989
Indonesia	10,346		14,185	
Ireland	1,149		23,366	20,587
Italy	71,307		215,688	
Japan	50,755		100,402	
Jordan	0		0	
Kuwait	217		350	
Latvia	0		0	
Lebanon	25		36	
Lithuania	101		725	
Luxembourg	408		1,988	
Malaysia	19,281		29,441	
Mexico	179,548		349,444	
Morocco	23,299		33,245	
Netherlands	31,786		68,475	
New Zealand	0		0	
Norway	1,672		322,483	113,486
Oman	0		0	
Peru	0		0	
Poland	325,822		452,782	

Portugal	15,146		37,016	
Qatar	608		1,250	
Romania	27,884		92,200	
Russian Federation	45,841		128,112	
Saudi Arabia	8,909		12,484	
Serbia	670		919	
Singapore	0		0	
Slovakia	744		4,714	
Slovenia	45		174	
South Africa	35,801		37,877	
Democratic People's Republic of Korea	107,206		205,612	
Spain	38,354		355,019	198,981
Sweden	6		182,410	181,387
Switzerland	1,521		54,511	
United Republic of Tanzania	412		1,543	
Thailand	27,943		58,556	
Turkey	54,751		117,871	
United Arab Emirates	6,692		10,127	
United Kingdom of Great Britain and Northern Ireland	462		335,666	334,007
United States of America	568,648		1,222,195	
Venezuela (Bolivarian Republic of)	62,620		208,007	
Viet Nam	12,378		26,594	
Zimbabwe	1,070		1,232	

C7.6

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

By activity

C7.6c

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

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Glass Activity	1,159,760	
Pipe Activity	100,425	
Other	1,822,427	

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	116,308	Decreased	0.9	In 2018, our change renewable energy consumption decreased the combined scope 1 & 2 emissions by approximately 116308 tCO2e compared to 2017. Our total scope 1 and 2 emissions in 2017 were 12,95MtCO2e, so we estimated a decrease of 0,9% through $(0.116308/12.95)*100=0.9\%$
Other emissions reduction activities	2,114,879	Decreased	16.3	In 2018, our emissions reduction actions reduced the combined scope 1 & 2 emissions by approximately 2114879 tCO2e compared to 2017. Our total scope 1 and 2 emissions in 2017 were 12,95MtCO2e, so we estimated a decrease of 16.3% through $(2.114879/12.95)*100=16.3\%$
Divestment				
Acquisitions				
Mergers				

Change in output	940,570	Increased	7.3	In 2018, our change in output increased the combined scope 1 & 2 emissions by approximately 940570 tCO2e compared to 2017. Our total scope 1 and 2 emissions in 2017 were 12,95MtCO2e, so we estimated a increase of 7,3% through $(0.940570/12.95)*100=7.3\%$
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

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 undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes

Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
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 MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	1,207,472	33,293,483	34,500,955
Consumption of purchased or acquired electricity		1,130,985	8,372,824	9,503,809
Consumption of purchased or acquired heat		0	6,419	6,419
Consumption of purchased or acquired steam		0	95,171	95,171
Consumption of self-generated non-fuel renewable energy		5,019		5,019
Total energy consumption		2,343,476	41,767,897	44,111,373

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	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No

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)

Charcoal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,207,472

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

1,207,472

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Coke

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

2,328,421

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

2,327,695

MWh fuel consumed for self-generation of steam

726

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

592,306

MWh fuel consumed for self-generation of electricity

548

MWh fuel consumed for self-generation of heat

591,758

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Heavy Gas Oil

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

2,403,501

MWh fuel consumed for self-generation of electricity

11,043

MWh fuel consumed for self-generation of heat

2,352,091

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

40,367

Comment

Fuels (excluding feedstocks)

Lignite Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,325,356

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

1,325,356

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

414,842

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

413,854

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

988

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

26,229,057

MWh fuel consumed for self-generation of electricity

21,190

MWh fuel consumed for self-generation of heat

25,968,010

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

239,857

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Charcoal

Emission factor

0

Unit

kg CO₂e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Coke

Emission factor

385

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Diesel

Emission factor

267

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Heavy Gas Oil

Emission factor

279

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Lignite Coal

Emission factor

354

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Liquefied Petroleum Gas (LPG)

Emission factor

227

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

Natural Gas

Emission factor

202

Unit

kg CO2e per MWh

Emission factor source

IPCC 2006 guidelines for National Greenhouse Gas Inventories

Comment

C8.2e

(C8.2e) 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	160,642	18,131	117,374	5,019
Heat	34,186,236	34,186,236	1,207,472	1,207,472
Steam	726	0	0	0
Cooling	0	0	0	0

C8.2f

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

Basis for applying a low-carbon emission factor

Energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type

Solar PV

Wind

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

1,111,996

Emission factor (in units of metric tons CO₂e per MWh)

0

Comment

Basis for applying a low-carbon emission factor

Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

Low-carbon technology type

Solar PV

Region of consumption of low-carbon electricity, heat, steam or cooling

Asia Pacific

MWh consumed associated with low-carbon electricity, heat, steam or cooling

18,989

Emission factor (in units of metric tons CO₂e per MWh)

0

Comment

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

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

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

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year


Complete

Type of verification or assurance

Limited assurance

Attach the statement

1

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Relevant standard

Other, please specify

ISAE 3000+ Compagnie Nationale des Commissaires aux Comptes (CNCC)

Proportion of reported emissions verified (%)

90

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

1

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Page/ section reference

pages 327 - 332

Relevant standard

Other, please specify

ISAE 3000+ Compagnie Nationale des Commissaires aux Comptes (CNCC)

Proportion of reported emissions verified (%)

90

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?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Progress against emissions reduction target	ISAE 3000 +Compagnie Nationale des Commissaires aux Comptes (CNCC)	We ask from our auditors, in their mission statement, to verify as well our progress against our set of internal targets (such as the "Int1" target) as well as the year on year variation of our emissions. See registration document page 330  1

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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.

- Alberta carbon tax
- BC carbon tax
- Beijing pilot ETS
- EU ETS
- France carbon tax
- Korea ETS
- Shanghai pilot ETS
- Other carbon tax, please specify
 - Ontario carbon tax
- Other ETS, please specify
 - Quebec ETS
- Other ETS, please specify
 - California ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

Beijing pilot ETS

% of Scope 1 emissions covered by the ETS

0.2

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

17,080

Allowances purchased

0

Verified emissions in metric tons CO₂e

15,518

Details of ownership

Facilities we own and operate

Comment

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

EU ETS

% of Scope 1 emissions covered by the ETS

42

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

2,797,489

Allowances purchased

0

Verified emissions in metric tons CO₂e

3,608,199

Details of ownership

Facilities we own and operate

Comment

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

Korea ETS

% of Scope 1 emissions covered by the ETS

3.6

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

330,890

Allowances purchased

0

Verified emissions in metric tons CO₂e

312,047

Details of ownership

Facilities we own and operate

Comment

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

Shanghai pilot ETS

% of Scope 1 emissions covered by the ETS

1.2

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

118,231

Allowances purchased

0

Verified emissions in metric tons CO₂e

106,705

Details of ownership

Facilities we own and operate

Comment

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

Other ETS, please specify

% of Scope 1 emissions covered by the ETS

0.2

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

20,076

Allowances purchased

0

Verified emissions in metric tons CO₂e

18,242

Details of ownership

Facilities we own and operate

Comment

Data for Quebec

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

Other ETS, please specify

% of Scope 1 emissions covered by the ETS

0.7

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

31,190

Allowances purchased

0

Verified emissions in metric tons CO₂e

57,783

Details of ownership

Facilities we own and operate

Comment

Data for California

Provided data are given for the concerned reporting year. Previous years were given in previous CDP questionnaires.

C11.1c

(C11.1c) Complete the following table for each of the tax systems in which you participate.

Alberta carbon tax

Period start date

January 1, 2018

Period end date

December 31, 2018

% of emissions covered by tax

0.4

Total cost of tax paid

421,315

Comment

BC carbon tax

Period start date

January 1, 2018

Period end date

December 31, 2018

% of emissions covered by tax

0.3

Total cost of tax paid

545,337

Comment

France carbon tax

Period start date

January 1, 2018

Period end date

December 31, 2018

% of emissions covered by tax

0.2

Total cost of tax paid

1,400,000

Comment

Other carbon tax, please specify

Period start date

January 1, 2018

Period end date

December 31, 2018

% of emissions covered by tax

0.1

Total cost of tax paid

85,916

Comment

Data for Ontario

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Our general strategy is to reduce our CO2 emissions through several tools: CO2 targets at Group level, energy management systems and WCM, R&D programs, investments, use of low carbon energy. We purchase allowances for the remaining gap. This strategy applies at Group level, that means not only for systems to which we participate but also for the ones that we shall participate in the future. The answer to question C4.3b provides several examples of energy efficient projects that we have implemented in 2018. In 2018, we have purchased green electricity in several countries such as UK sites and Scandinavia. At the end of 2018, 91 sites of the “environment concerned perimeter” were certified to ISO 50001, compared with 86 a year earlier.

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?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Drive low-carbon investment

GHG Scope

Scope 1

Scope 2

Application

Internal carbon price of 30€/ton applies to industrial investments above a certain threshold, investments associated with a change in energy source, energy investments on an existing or greenfield site with a total annual energy consumption of more than 10 GWh. The internal carbon price is applicable by all entities in each of the 67 countries where we operate. They can apply a higher rate to help drive the transition and weight on the investment decisions. This internal price of carbon is public.

Actual price(s) used (Currency /metric ton)

30

Variance of price(s) used

No variance

Type of internal carbon price

Shadow price

Impact & implication

The internal carbon price mechanism, implemented at the beginning of 2016, has the objective of accelerating the transition to low-carbon technologies at Group level. The internal carbon price covers scope 1 and scope 2 CO₂ emissions of the Group. The efficiency of the carbon price for investment is highly dependent of the project specificity. In any case the carbon price has a strong impact in terms of awareness of CO₂ cost within the Group.

Objective for implementing an internal carbon price

Drive low-carbon investment

GHG Scope

Scope 1

Scope 2

Scope 3

Application

The other internal price of carbon is much higher (100€ per ton) and is used to guide R&D budgets with a long-term orientation. The internal carbon price is applicable by all entities in each of the 67 countries where we operate. They can apply a higher rate to help drive the transition and weight on the investment decisions. This internal price of carbon is public

Actual price(s) used (Currency /metric ton)

100

Variance of price(s) used

No variance

Type of internal carbon price

Shadow price

Impact & implication

The internal carbon price mechanism, implemented at the beginning of 2016, has the objective of accelerating the transition to low-carbon technologies at Group level and for R&D to invest in breakthrough low-carbon technology. For R&D, the internal carbon price covers scope 1, scope 2 and 3 CO₂ emissions of the Group. This price level has already demonstrated value in supporting low-carbon R&D projects in particular.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Compliance & onboarding

Details of engagement

Other, please specify

Charter with climate change principles

% of suppliers by number

17

% total procurement spend (direct and indirect)

76.7

% Scope 3 emissions as reported in C6.5

46

Rationale for the coverage of your engagement

46,679 suppliers signed our Responsible Purchasing Charter. They represent 76.7% of our spent and 17% of the total number of suppliers (264,867). We track these data through the R-Net online platform, a private website entirely dedicated to the subject of responsible purchasing.

For scope 3 emissions, we made the hypothesis that 76.7% of our suppliers of the following categories signed our charter: Purchase of goods and services, fuels and energy related activities and transportation.

Impact of engagement, including measures of success

Responsible purchasing is part of Saint-Gobain's responsible development policy. For both the industrial and distribution activities of Saint-Gobain, a common Suppliers

Charter explains Saint-Gobain's requirements and suppliers' obligations in the area of corporate social responsibility. As measure of success, we can state that 46,679 suppliers signed our Responsible Purchasing Charter.

An online platform called R-Net has been set up to facilitate responsible purchasing. Industrial activities suppliers have access to R-Net to acknowledge receipt of Supplier Charter of Saint-Gobain, electronically transmit essential proofs (timber certificates, quality certificates, ISO standards), answer self-assessment questionnaires, get all the information on Saint-Gobain's responsible purchasing directives and access to details of their CSR assessments.

At the end of 2018, 47,305 contacts of suppliers are registered on our online platform, 52,047 suppliers' subsidiaries are covered by a fulfilled questionnaire. About 71% of all suppliers which have answered to the questionnaire have notified that they have implemented in its production the necessary measurements to limit or even to remove greenhouse gas emissions.

Comment

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Other, please specify

Collect information (sometimes annually)

% of suppliers by number

31.9

% total procurement spend (direct and indirect)

47.5

% Scope 3 emissions as reported in C6.5

5.5

Rationale for the coverage of your engagement

The responsible purchase program of our industrial activities is applicable to suppliers who represent more than 100k€ per year in spent and represent around 87.6% % of Saint-Gobain's spent.

5,346 of them are considered as potentially risky regarding CSR and 47.5% of them in spent (31.9% by number) have been concerned by documentation reviews.

For scope 3 emissions, we made the hypothesis that 9,2% of our suppliers (in spent) of the following categories were concerned by documentation reviews: Purchase of goods and services, fuels and energy related activities and transportation

Impact of engagement, including measures of success

The Group has set a target 2017-2021 of having evaluated the CSR performance of almost all reputable suppliers with CSR risk and annual sales of more than 100,000€ with the Group. Regarding CSR audits, the goal is to achieve about 100 audits per year for low initial CSR performance. These audits may lead to de-references if the necessary corrective plans are not implemented within the agreed deadlines.

As measure of success, we can state that 903 suppliers have been concerned by documentation reviews by a third party.

The suppliers with unsatisfactory grades to those CSR evaluations have to work to improve their overall performance according to the detailed scorecard evaluation recommendation.

As action led to reduce our carbon footprint, we can mention the following:

For Saint Gobain's industrial activities, a CO2 action plan was launched to reduce our scope 3 carbon footprint. We have identified two sectors which have the most Scope 3 emissions : purchased goods (raw material) and upstream transportation. For the raw materials, 2 of them are the main contributors to our scope 3 carbon footprint. As an example, Industrial Mortars, the activity directly concerned by one of these raw materials, is working to reduce the carbon footprint of this material, mainly through raw materials substitution.

Comment

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

75

% Scope 3 emissions as reported in C6.5

0

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

These education/information/promotion actions are carried out for all our habitat activities that represent around 75% of our sales.

The use of our products in that context helps to avoid emissions, meaning that there is

no link with scope 3 emissions.

Impact of engagement, including measures of success

We can measure the success through the diversity and amount of the following initiatives that we have in the education domain.

Among the training courses delivered by local teams, some are dedicated to energy efficiency and to the reduction of the environmental impact of buildings. The Building Distribution is particularly active on that subject. In France, the Point.P network has implemented “Energy Efficiency” counters in over 130 agencies. The sellers are specifically trained and tools such as a simulator that allows for the evaluation of the energy efficiency in the construction sector, baptized Feebat, is offered alongside a support for the official recognition of the efficiency of the measures implemented called Certipro.

In other countries, like Netherlands, Norway or even Denmark, dedicated spaces are offered to installers and individuals to provide them with advice and training in the realm of renewable energies.

Beyond the Building Distribution, training structures are offered by country. They are open to craftsmen, installers, architects and other actors of the construction sector. They can also be associated with professional schools. In France, the Habitat France structure is committed to eight training centers for apprentices (CFA) for partnerships relative to the provision of training or for the accompaniment of instructors that answer to a center.

Every year, Weber offers over 200,000 training sessions worldwide, allowing installers to access new sustainable construction technologies.

Finally, we are also participating to major trade shows, such as Greenbuild in the United States, in India and in Europe, or the Big 5 in the United Arab Emirates, which provide opportunities to showcase. Saint-Gobain experts are usually giving talks on topics such as eco-innovation and sustainable construction or on new building techniques during such events.”

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

17

% Scope 3 emissions as reported in C6.5

96

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

Eco-innovation applies to all our products.
 Related scope 3 emissions are all categories except business travels, employees commuting and upstream leased assets.
 Size of engagement has been measured through our environment R&D expenses vs our total R&D expenses.

Impact of engagement, including measures of success

Our bond with our customers helps us better understand demand and develop innovative, high value-added products that contribute to reduce the environmental impact of buildings. A product is considered eco-innovative if it contributes to reduce the use of resources in buildings and infrastructure and/or if it has a reduced environmental impact across its life cycle. The industrial businesses are in charge of developing and promoting eco-innovative products and systems, while the building distribution raises awareness on them and trains clients.
 For glass activities, for example, we are working on low-weight glass for the automotive industry to reduce our Scope 3 emissions and our clients' Scope 1 emissions.
 The Group began to deliver training in eco-innovation in 2013.
 Today, eco-innovation is covered in the training provided for new research managers and for R&D project leaders. It is also covered by a specific one-day training course primarily for marketing and R&D teams; as measure of success, around 750 people have attended this session since it was launched.

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?

- Direct engagement with policy makers
- Trade associations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	Saint Gobain has followed the progress of the 2016 EU Clean Energy Package for all Europeans very actively. In particular The Group has engaged at European and national levels to support the successful revisions of the Energy Efficiency Directive (EED) and the Energy Performance for Building Directive (EPBD), both completed in 2018.	On the revision of the Energy Efficiency Directive (EED), Saint-Gobain has been supporting of an ambitious binding target for energy efficiency by 2030, as well as a solid scheme to support the deployment of energy efficiency obligation schemes for the period of 2021 to 2030, as these have a positive impact on energy renovation. Regarding the Energy Performance

		<p>At European level, activities have notably included input and support to the position of our key partners, including EuroACE, EU-ASE, Eurima, Glass For Europe, the Renovate Europe Campaign, The World GBC Europe Regional Network, and the Coalition for Energy Savings. These positions were further explained and echoed at national level, notably through the national partners of the Renovate Europe Campaign. We have also engaged in supporting early implementation work for the EU Clean Energy Package</p>	<p>of Buildings Directive, Saint-Gobain has been a long-standing advocate of stronger national renovation strategies leading to implementing actions. Other key points of our position included a clear ambition for a near zero energy building stock (nZEB) by 2050, backed by concrete milestones for 2030 and 2040; evolving the Energy Performance Certificates (EPCs) into Building Renovation Passport; an adequate consideration of the role of measures improving the building envelope (insulation / glazing); and a solid Annex to support transparent calculation methodologies for assessing the energy performance of buildings.</p> <p>Most of these suggestions were included in the Directive agreed on 19th December 2017, paving the way for implementing work in 2018</p>
<p>Energy efficiency</p>	<p>Support</p>	<p>In France, Saint-Gobain has joined the “Commitment to Green Growth” programs set up by the authorities via the professional associations that it is a member of. The Commitment to Green Growth for flat glass signed by the trade associations in 2017 could lead to the collection and sorting of 80,000 tons of cullet per year in 2025 for the whole of the subsidiary in France.</p>	<p>The Flat Glass business optimizes its logistics to promote the recovery of cullet across the entire value chain where the Group is present and especially between glass processing sites (manufacturing windshields or windows, for example) and glass furnaces. The use of recycled raw materials in processes makes it possible to reduce energy consumption, particularly for glass fusion. In the case of flat glass, energy consumption is reduced by 3% when the percentage of cullet is increased from 20% to 30% of raw materials. This reduction in energy consumption is accompanied by a reduction in CO2 emissions (scope 1). The efforts made to transition to a circular economy will therefore have a positive effect on emissions.</p>

<p>Cap and trade</p>	<p>Support with minor exceptions</p>	<p>We are active in the discussions on EU-ETS, in particular to prepare for the period between 2021 and 2030. Saint-Gobain is engaged mostly through the sectoral associations representing its activities.</p>	<p>Through the national and European business associations, we have publicly expressed our position on the post 2020 reform of the EU-ETS Directive. The EU-ETS is a milestone of the EU Climate and Energy Policy and a necessary tool to reach -40% greenhouse gas emission reduction by 2030 (compared to 1990), while preserving the competitiveness of energy-intensive industries. Saint-Gobain supports: - The need for free and dynamic allocations and to address carbon leakage - The expansion of the Innovation Fund to support low carbon innovation in industrial sectors - The adaptation of the ETS Directive to changing economic conditions in order to provide the long-term visibility required to stimulate investment in low carbon technologies and processes.</p>
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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

AFEP

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Representing more than 110 of the largest private groups operating in France, the Afep - French Association of Private Enterprises - participates in the public debate with the

aim of providing pragmatic responses to the development of a competitive French and European economy.

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

Saint-Gobain is a contributor to several work streams of AFEP, notably those related to climate and energy, energy efficiency and the circular economy.

For example, Saint-Gobain has contributed actively to the debate on the circular economy in AFEP through its circular economy working group, and has repeated its support for a solid framework to drive circularity in the building sector. In 2018, we were notably involved in the updates of the AFEP 2017 report on circular economy (“Trajectoires économie circulaire” –February 2017) .

Trade association

Green Building Councils

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

For many years, Saint-Gobain has been involved in local efforts to promote sustainable buildings by joining Green Building Councils (GBCs). These national associations of building market professionals and actors, present in over 100 countries, offer an effective dialogue platform to promote sustainable construction.

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

Saint-Gobain is proactively involved at 3 organizational levels of the World Green Building Council (WGBC) network: at international level, Saint-Gobain is one of the eleven members of the Corporate Advisory Board of the WGBC; at regional level, it is a partner of the European network of GBCs; and at country level, through its subsidiaries Saint-Gobain is member of 42 local GBCs.

In total, over 50 employees are involved in the GBCs network and represent Saint-Gobain in these 3 organizational levels.

We are a sponsor of WorldGBC's Better Places for People campaign. Saint-Gobain also provides active support for a number of WGBC campaigns, like Advancing Net Zero (ANZ) which aims to promote and support the acceleration of net zero carbon buildings to 100% by 2050, notably through certification.

We are also engaged in the WGBC work stream aiming at proposing a pathway for reducing embodied carbon.

At European level, we were involved in the Energy Efficiency Mortgage Action Plan (EeMAP) initiative, as member of its Energy Efficiency Committee.

We were also a member of the advisory board of the project Level(s), the new European framework for sustainable construction. Developed by the European Commission in close collaboration with key players such as Green Building Councils, Level(s) will contribute to the sustainable transformation of the construction sector. In this context,

Saint-Gobain is working on 4 pilot projects.

Trade association

EpE

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EpE (Enterprises for the Environment) is a coalition of around 40 French and international companies in the industrial and services sectors committed to work together to improve the inclusion of environmental challenges into their strategy and day-to-day management. EpE addresses medium and long term policy issues like climate change. EpE gives its members a forum for discussion, within the business world itself, but also with NGOs, ministers, politicians, scientists and academics. Shared experience and practices lead to the publication of guides, books, methodologies and proposals for action.

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

The Chairman and Chief Executive Officer of the Group, is Vice President of "Entreprises pour l'Environnement" the French non-profit organization partner of the WBCSD (World Business Council for Sustainable Development). We participate in working groups, studying climate change, the environmental economy, and the links between the environment, health and biodiversity. Saint-Gobain actively participate to the publication of several EpE booklets on various themes, notably "Companies and Climate Change Adaptation", "Companies strategies for climate: mobility" and "CO2 avoided emissions". During 2018, EpE has worked on the ZEN2050 study, aiming at assessing how to reach the carbon neutrality in France at the 2050 horizon.

Trade association

EuroACE

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EuroACE, the European Alliance of Companies for Energy Efficiency in Buildings, is an association of industrials that provide materials and solutions for energy efficiency in buildings. Created in 1998, EuroACE works at European level, together with the European institutions and a broad range of stakeholders, to develop a consistent European framework enabling more energy efficiency in new and existing buildings. EuroACE also supports targeted actions at national level. The Alliance celebrated its 20th Anniversary in 2018.

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

Saint-Gobain is an active member and supporter of the work of EuroACE, notably through its role as a Board member and its chairmanship of the Energy Efficiency Policy workgroup of the Alliance. Our input builds on our knowledge of energy efficiency policies in the various European countries and our holistic vision of buildings. In 2017-2018 we supported EuroACE in accompanying its work on the implementation of the Energy Performance of Buildings Directive (EPBD) and the Energy Efficiency Directive (EED) which notably led to the publication of a widely circulated EPBD Guidebook, and the organization of 4 well-attended webinars. Saint-Gobain holds the Presidency of the Alliance in 2017-2019.

Trade association

EU-ASE

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EU-ASE is a multi-sectoral business organisation launched in 2010, whose members have operations across the 28 Member States of the European Union. EU-ASE represents all industrial sectors engaged in energy efficiency, giving visibility and enhancing technological and market solutions for energy efficiency whose potential is today not fully exploited. EU-ASE works to promote a forward looking political agenda where energy efficiency will facilitate further decarbonisation efforts and the integration of renewable energy sources, in line with the Paris agreement.

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

We have been involved in the work of EU-ASE on the EU Clean Energy Package, notably in order to strengthen the revisions of the Energy Performance of Buildings Directive (EPBD), the Energy Efficiency Directive (EED), and the Governance for energy and Climate policies. We also worked with EUASE on the preparation of the EU long term decarbonisation strategy published in November 2018. Not least, we are taking part in regular meetings with government representatives in capitals in Brussels. For example, we helped to organize the first Franco-German Energy-Efficiency Business Summit in Berlin in November 2018, where we hold a keynote speech.

Trade association

EURIMA

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Eurima, the European Insulation Manufacturers Association, represents the interests of all major mineral wool producers throughout Europe. Eurima is a leading voice making the case for a European energy policy that places a more meaningful emphasis on energy efficiency and savings by promoting the common interests of our industry and working for positive regulations and standards to reduce energy use across Europe. Eurima also takes the lead on promoting sustainability in the construction sector.

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

Saint-Gobain is actively involved in the work of Eurima and provides regular input to all of its work streams.

Saint-Gobain holds the Chairmanship of Eurima as well as Convenorship of the Technical Committee and Vice-Convenorship of the Energy Efficiency Committee. In Eurima, we promote the common interests of our industry and works for positive regulations and standards in the fields of energy efficiency, circular economy and sustainability.

Trade association

ETC

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Energy Transition Commission is a diverse group of leaders from public, private and social sectors. They are energy users and suppliers, researchers and advisers, with experience in various geographies aiming to help identify pathways for change in their energy systems to ensure both better growth and a better climate.

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

The Chairman and Chief Executive Officer of the Group, is one of the commissioners. We participated in the elaboration of several reports like the ETC "Better Energy, Greater Prosperity" report published in May 2017 to limit global warming at levels well below 2 °C.

In November 2018, the ETC published a report entitled "Mission Possible: reaching net zero carbon emissions from harder-to-abate sectors by mid-century".

Trade association

Global Alliance for Building and Construction (GABC)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

This alliance, launched by France and the United Nations Environment Program (UNEP) during the COP21, aims to bring states, local authorities, construction businesses and relevant associations together by means of a roadmap to smooth the transition to energy efficient buildings with low greenhouse gas emissions, in accordance with the goals set under the Paris Agreement.

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

Saint-Gobain is committed to creating a low-carbon trajectory for the global construction industry. For this reason, the Group is actively involved in the work of the GABC, as a founding member of the GABC and as a member of its steering committee. Through its involvement in the GABC, Saint-Gobain seeks to demonstrate to all countries that the technical solutions exist, particularly for improving energy efficiency, regardless of geography – hot countries, cold countries, dry or tropical climates – and that these solutions are affordable. GABC organised a symposium on building at COP24 in Poland.

Trade association

Glass for Europe

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Glass for Europe is the trade association for Europe's manufacturers of building, automotive, and transport glass, all derived from the base material known as flat glass. Glass for Europe's position is to call for a binding energy efficiency target that will support economic growth, sustain the competitiveness of Europe's industries and facilitate the transition towards a low-carbon economy across all sectors of the economy.

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

As a member of Glass for Europe, Saint-Gobain is acting in favor of energy efficiency in light of glass contribution to energy savings at building level, and to lighter solutions on the automotive industry.

Saint-Gobain notably provides support to work streams related to energy efficiency (e.g. Implementation Guide on the new buildings directive) and to the decarbonisation of the glass industry.

Trade association

EUROGYPSUM

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Eurogypsum is an European federation of national associations of gypsum products manufacturers. Eurogypsum's position consists in promoting a sustainable built environment for Europe thanks to the environmental, social and economic credentials of gypsum products and solutions. Eurogypsum advocates for a European policy on gypsum products recycling that is not a single operator responsibility, but a collaboration between different operators throughout the value chain and pushes for a circular economy model of the gypsum products in the construction market

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

Saint-Gobain has been a member of Eurogypsum for several years. As a leader on the gypsum products market, Saint-Gobain already advocates for a better recycling of gypsum products.

Saint-Gobain participates in all work streams of Eurogypsum, and is particularly involved in its committees on climate and emissions, and sustainability.

Trade association

LEVEL(S)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

To improve sustainability and drive market demand for better buildings, a new, open source assessment framework, Level(s) has been developed by the European Commission in close collaboration with stakeholders including Skanska, Saint-Gobain, Sustainable Building Alliance and Green Building Councils.

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

At European level, Saint-Gobain has been a member of the LEVEL(S) steering committee. The committee is an instrument developed by the European Commission in conjunction with the industry and the public sector and aims to establish a "common language" for sustainable construction, in order to take it beyond energy efficiency. The European Commission launched the pilot phase of LEVEL(S) in 2017; it will continue until 2019. In 2018, Saint-Gobain has launched the testing of LEVEL(s) on 4 projects, and has remained an engaged stakeholder in the debate on the future of LEVEL(s).

Trade association

World Business Council for Sustainable Development (WBCSD)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

WBCSD is a worldwide organization of 200 companies that deliberate on and develop solutions for a more sustainable world. A core component of WBCSD's Climate Policy

activities is to foster strong policy signals and economic incentives promoting a race to the top where sustainable solutions can succeed. They actively call for policies that are consistent with ambitious action on climate and enable business-led solutions to scale up and speed up the implementation of the Paris Agreement.

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

Saint-Gobain has been a member of the WBCSD board since 2017, with responsibility for “climate, energy, the circular economy, towns and cities, and mobility”.

Saint-Gobain attended the third Business and Climate Summit (BCS) in June 2017, which was supported by EpE and the WBCSD.

We also joined the World Factor 10 program at the end of 2017 Business Council for Sustainable Development on the circular economy program, aiming to bring circularity into heart of business leadership and practice. The goal is to build a critical mass of engagement within and across business to move the Circular Economy to deliver and scale solutions needed to build a sustainable world.

Trade association

CPLC

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

The Carbon Pricing Leadership Coalition (CPLC) was officially launched on November 30, 2015, the opening day of the United Nations Framework Convention on Climate Change 21st Conference of Parties (COP21) meeting in Paris, France. The World Bank Group, business groups, and investors have called on governments and corporations around the world to support carbon pricing to bring down emissions and drive cleaner investments in cleaner technologies.

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

We are part of the Carbon Pricing Leadership Coalition Founding Partners and take part to working groups such as the one related to carbon pricing of the construction sector.

Trade association

Globe EU and Bee Group

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association’s position

The GLOBE EU Bee Group is a forum for MEPs on one hand and progressive business partners on the other. The Bee Group’s purpose is to propose alternatives inspired by innovation and a long-term vision on issues related to sustainable development and circular economy. In other words, the Bee Group invites decision-makers to think about

the future, building upon the common understanding that positive legislation is needed to manage the transition towards a more sustainable model.

Within the European Parliament, GLOBE EU serves as a platform for discussing European policy proposals and for coordinating political action among Members of the European Parliament (MEPs) and at member state level.

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

In 2017 the GLOBE EU events organized with the Bee Group addressed issues such as Green Public Procurement, Innovation, Indoor Environmental Quality, Sustainable Mobility, Waste Flows in a Circular Economy. GLOBE EU also organized the Earth Overshoot Day in the European Parliament.

Through its activities (workshops, round tables, conferences and other structured discussions) the Bee Group helps sharing the vision of forward-looking corporations; debates how legislation and incentives can help innovate towards resource-efficiency, and how best practices can be upscaled.

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?

The Group's Sustainable Development Vice-President leads and coordinates the actions across the Group in this domain. Are part of his team the sustainable Construction team (including the European Public Affairs team), as well as the EHS department managing the Group environmental targets including CO₂. This organization ensures that all actions and projects are in line with the group's overall climate commitments. At Group level, the Sustainable Construction team defines and coordinates the Group's strategy for influencing sustainable construction markets, including issues relevant to climate change such as embodied carbon and energy efficiency, notably within the framework of discussions with stakeholders. Through our public advocacy activities, we ensure a regular monitoring of policy and regulatory developments, and provide timely input to support future policy developments. The EHS policy guides the Group's approach towards the maximal reduction of its environmental impacts, and states mid-term targets for emissions reduction and energy consumption. It is communicated to all employees through guidance documents, to ensure a consistent approach for all businesses and countries in which we operate. Furthermore, the Corporate Marketing Department has defined "Public Advocacy and Standards" as one of the marketing pillars of the Group, dedicated to the enhancement of the monitoring of new regulations in force in the business and aligned with the vision of the Sustainable Construction Strategy. The public advocacy actions led by Saint-Gobain are fully transparent and publicly disclosed in the Transparency Register in Brussels. This register provides citizens with a direct and single access to information about who is engaged in activities aiming at influencing the EU decision-making process, which interests are being pursued and what level of resources are invested in these activities. At country level, our public advocacy committees, composed of internal experts, promote pro-active positions to mitigate consequences of climate change and enable adaptation in the building sector. 38 cross-business Habitat Committees were in place

in 2018 around the world to identify opportunities and define methods to manage them. They also exchange information on local policy trend, led by each country, to ensure alignment. Our objectives of decreasing our carbon footprint for scope 1, 2 and 3 by 2025, together with the avoided emissions thanks to the use of our improved insulations solutions are fully in line with worldwide public policies (building energy efficiency, cap and trade and carbon taxes schemes).

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


In mainstream reports

Status

Complete

Attach the document

1

 doc de référence 2018 EN.pdf

Page/Section reference

Pages 74 to 77

Content elements

Governance
 Strategy
 Risks & opportunities
 Emissions figures
 Emission targets
 Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

1

 CPLC+Leadership+Report+2018-19.pdf

Page/Section reference

Page 46

Content elements

Strategy
Risks & opportunities
Emissions figures

Comment

In this the CPLC annual report, we explain the background of our collaboration with CPLC on carbon pricing

Publication

In other regulatory filings

Status

Complete

Attach the document

1

 notice of meeting 2019.pdf

Page/Section reference

Pages 26, 27, 63, 64

Content elements

Governance
Strategy
Emission targets

Comment

Notice of the 2019 meeting
(Combined ordinary and extraordinary
general meeting) – year-2018- Focus is done one the incentives provided for the
management of climate-related issues

Publication


In voluntary communications

Status

Complete

Attach the document

1

 ETC_MissionPossible_FullReport.pdf

Page/Section reference

Page 7 and 14-45

Content elements

Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

In November 2018, the ETC published a report entitled “Mission Possible: reaching net zero carbon emissions from harder-to-abate sectors by mid-century”. The Chairman and Chief Executive Officer of the Group, is one of the commissioners.

Publication

In voluntary communications

Status

Complete

Attach the document

0

Page/Section reference

https://www.linkedin.com/today/author/dechalendar?trk=public_profile_articles_see_all

Content elements

Governance
Strategy
Risks & opportunities

Comment

Linkedin post of our CEO on several topics including climate change (COP24, environment, etc)

C14. 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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	The Senior Vice President in charge of Human Resources and Member of the Executive Board , having the overall responsibility of the Sustainable Development department	Board/Executive board