

## C0. Introduction

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### C0.1

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

CEMEX, S.A.B. de C.V. is a publicly traded stock corporation with variable capital, or sociedad anónima bursátil de capital variable, organized under the laws of Mexico, with its headquarters located at Avenida Ricardo Margáin Zozaya #325, Colonia Valle del Campestre, San Pedro Garza García, Nuevo León, 66265, Mexico. CEMEX's main phone number is +52 81 8888-8888. CEMEX, S.A.B. de C.V. was founded in 1906 and was registered with the Mercantile Section of the Public Registry of Property and Commerce in Monterrey, Nuevo León, Mexico, on June 11, 1920 for a period of 99 years. At our 2002 ordinary general shareholders' meeting, this period was extended to the year 2100 and in 2015 this period changed to be indefinite. Beginning April 2006, CEMEX's full legal and commercial name is CEMEX, Sociedad Anónima Bursátil de Capital Variable. CEMEX is one of the largest cement companies in the world, based on annual installed cement production capacity as of December 31, 2018, of approximately 93 million tons. CEMEX is the second largest ready-mix concrete company in the world with annual sales volumes of approximately 53 million cubic meters and one of the largest aggregates companies in the world with annual sales volumes of approximately 150 million tons, in each case, based on our annual sales volumes in 2018. CEMEX is also one of the world's largest traders of cement and clinker. CEMEX, S.A.B. de C.V. is an operating and holding company engaged, directly or indirectly, through its operating subsidiaries, primarily in the production, distribution, marketing and sale of cement, ready-mix concrete, aggregates, clinker and other construction materials throughout the world, and that provides reliable construction-related services to customers and communities in more than 50 countries throughout the world, and maintains business relationships in over 100 countries worldwide. CEMEX operates globally, with operations in Mexico, the United States, Europe, South America, Central America, the Caribbean, Asia, the Middle East and Africa. CEMEX had total assets of approximately US\$28 billion as of December 31, 2018. As of December 31, 2018, CEMEX's cement production facilities were in Mexico, the United States, the United Kingdom, Germany, Spain, Poland, Latvia, Czech Republic, Croatia, Colombia, Panama, Costa Rica, the Dominican Republic, Puerto Rico, Nicaragua, Trinidad and Tobago, Jamaica, Barbados, Egypt, and the Philippines. CEMEX has a rich history of improving the well-being of those it serves through innovative building solutions, efficiency advancements, and efforts to promote a sustainable future.

### C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2018	December 31 2018	No	<Not Applicable>

### C0.3

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

Barbados  
Colombia  
Costa Rica  
Croatia  
Czechia  
Dominican Republic  
Egypt  
France  
Germany  
Guatemala  
Israel  
Jamaica  
Latvia  
Mexico  
Nicaragua  
Panama  
Philippines  
Poland  
Puerto Rico  
Spain  
Trinidad and Tobago  
United Arab Emirates  
United Kingdom of Great Britain and Northern Ireland  
United States of America

**C0.4**

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

USD

**C0.5**

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**(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.**

Financial control

**C-CE0.7**

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**(C-CE0.7) Which part of the concrete value chain does your organization operate in?**

Limestone quarrying  
Clinker production  
Portland cement manufacturing  
Blended cement  
Aggregates production  
Concrete production  
Concrete pavement / asphalt / tarmac

**C1. Governance**

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## C1.1

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

Yes

### C1.1a

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

Position of individual(s)	Please explain
Board-level committee	The Sustainability Committee is responsible for ensuring sustainable development in our strategy; supporting our Board of Directors in fulfilling its responsibility to shareholders regarding sustainable growth; evaluating the effectiveness of sustainability programs and initiatives; providing assistance to our Chief Executive Officer and senior management team regarding the strategic direction on sustainability; and endorsing our model of sustainability, priorities, and key indicators. This explicitly includes all topics related to climate change and CO2 emissions. The Sustainability Committee is made of four Directors on the Board.

### C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Sustainability Committee pursues CEMEX has board-level oversight on Climate Change and CO2 Management Strategy. The Committee meets four times a year and is normally briefed by the Corporate Director Sustainability or the Executive VP for Sustainability and Operational Development. This includes in-depth reviews of particular topics which are planned in advance (at the end of the previous year) as well as unforeseen recent developments that are considered material enough to be brought to the Board's attention or require guidance from the Sustainability Committee. In 2018, CEMEX developed a CO2 Reduction Roadmap launched across all our cement sites to model and assess the carbon mitigation potential that can be seized from each installation considering different factors; advancements on the Roadmap, as well as in the implementation of CEMEX's CO2 Strategy, business plans and performance are reviewed by the committee in each of the meetings as a fixed topic in the agenda. Besides, in 2018 the scheduled agenda for the Sustainability Committee meetings included the following topics that are also related to climate change: CEMEX's 2018 Integrated Report Structure and Content Sustainability KPI's Annual Performance and Improvement Plan Global and Regional Sustainability Risks Agenda Update Climate Change Strategy and CO2 Management The enriching Sustainability Committee discussions led to valuable outcomes related with climate-change, as the launching of the Sustainability Scorecard to closely monitor performance of all countries in core KPIs and ensure progress towards our global objectives, and the CEMEX CO2 Reduction Roadmap by cement installation

**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
Other C-Suite Officer, please specify (Executive VP Sustainability & Operations Development)	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 Executive VP for Sustainability and Operations Development is a position in the Executive Committee to oversee the areas of

- Operations & Technology
- Energy
- R&D & IP Management
- Health & Safety
- Procurement
- Sustainability

The Executive VP for Sustainability and Operations Development reports directly to the CEO of the company.

The responsibilities with respect to climate change include

- monitoring of the company's performance in terms of CO2 emissions and related KPIs
- assessment of climate-related risks and opportunities (responsible for climate-related topics in integrated risk assessment)
- preparation of targets and initiatives for approval by ExCo / Board
- implementation of approved targets and initiatives

### C1.3

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

Yes

### C1.3a

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**(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?**

Chief Executive Officer (CEO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Variable compensation is linked to achievement of targets. One of these targets is the achievement of a global CO2 reduction target for the year in question that is in line with a credible pathway towards reaching our publicly stated long-term target.

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**Who is entitled to benefit from these incentives?**

Other C-Suite Officer

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Variable compensation is linked to achievement of targets. One of these targets is the achievement of a global CO2 reduction target for the year in question that is in line with a credible pathway towards reaching our publicly stated long-term target. These targets are implemented for the Executive VP of Sustainability and Operations Development (global target) and the regional presidents in the ExCo (with region-specific targets).

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**Who is entitled to benefit from these incentives?**

Business unit manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Variable compensation for all our country presidents is linked to achievement of targets. One of these targets is the achievement of country-specific CO2 reduction target for the year in question that is in line with a credible pathway towards reaching our publicly stated long-term target.

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## C2. Risks and opportunities

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### C2.1

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

	From (years)	To (years)	Comment
Short-term	0	3	Please note these definitions of short, medium and long term only apply to this questionnaire, particularly our assessment of risks and opportunities, and should not be used for interpreting any other CEMEX communication.
Medium-term	3	6	Please note these definitions of short, medium and long term only apply to this questionnaire, particularly our assessment of risks and opportunities, and should not be used for interpreting any other CEMEX communication.
Long-term	6	35	Please note these definitions of short, medium and long term only apply to this questionnaire, particularly our assessment of risks and opportunities, and should not be used for interpreting any other CEMEX communication.

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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	Regulatory, scientific and other developments are constantly monitored; significant changes trigger a review of the strategy

### C2.2b

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

CEMEX' Enterprise Risk Management (ERM) system is a network of more than 35 risk management professionals around the world. This includes some corporate risk management specialists that do the assessment in collaboration with regional, national personnel as well as specialists for five key topics (including sustainability, which in turn includes climate change). Please note that - as a rule of thumb - the sustainability specialist in the network focuses on regulatory and other (such as reputational or market) risks, whereas physical risks related to climate change (e.g. increased probability of flooding, potential interruptions of the supply chain) are covered by regional and local representatives. In addition the sustainability expert in the ERM network is collaborating with regional and local sustainability staff for the monitoring and analysis of corresponding developments.

The company's risk agenda is formally updated at least twice a year and it follows a bottom-up approach (plant-country-region-corporate). However, all contributors (direct and indirect) constantly monitor the evolution of important topics, and changes that are identified as material will trigger an immediate adjustment. For example, regional experts are constantly following legislative developments related to CO2 and meeting in a quarterly basis to share their progress, analyzing potential impacts for CEMEX, and immediately reporting material changes (such as new emission taxes or important adjustments to emissions trading systems) to the ERM network and Corporate Sustainability. Risks are considered substantive when they threaten the competitiveness and / or profitability of at least one cement plants. As the size of cement plants and other decisive parameters vary significantly this cannot be translated into a fix number, but the threshold is typically around 1 million USD/year.

### 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	A number of CEMEX operations are currently subject to climate change-related legislation, including emissions trading systems (European Union, California) and taxes (e.g. Colombia, México...). Given the significant implications that even small changes to e.g. free allocation to our operations or overall scarcity of allowances can have it is paramount for CEMEX to follow closely current developments and adjust our risk adjustment and strategy accordingly. EXAMPLE of Risk Type: Carbon tax on just liquid and gas (coal and petcoke are excluded) fossil fuels in Colombia, already affecting our operational cost, mainly related to transport. The same happens with the current regulation in Mexico, where all fossil fuels, excluding Natural Gas, are taxed, so this taxation is directly affecting our operational cost.

	Relevance & inclusion	Please explain
Emerging regulation	Relevant, always included	CEMEX fully supports the implementation of the Paris Agreement and collaborates with governments around the world to define and implement Nationally Determined Contributions (NDCs). In a quarterly basis, the CEMEX "CO2 Regulation Focus Group", comprised of PA, Operations and Sustainability members in each Region, share the insights from this collaboration with governments and identify any risk in emerging regulations. EXAMPLE of Risk Type: Definition of a New ETS in Mexico that will have a noticeable impact on our operations. We are collaborating close to Governments (through CANACEM (Mexican Cement Association)) on the design and revision of the new ETS regulation proposals. At the moment, different scenarios of regulation are evaluated in terms of emissions and economic impact for all our Mexican operations. The same exercise was made for all countries in SCA&C Region; carbon tax regulation vs. ETS has been analyzed in terms of emissions and economic impact of each scenario.
Technology	Relevant, always included	Technology is the key lever for CEMEX to significantly reduce its CO2 footprint in the long run. CEMEX is involved in new R&D products (such as our proprietary low-CO2 clinker) and other new technologies projects on Carbon Capture (usually in the H2020 EU scheme and also collaborating with NPC in USA in Carbon Capture, Utilization and Storage (CCUS) technologies, which can help us to manage transition risks. The technology is considered a risk in some installation where not implementing new-technologies could result in a non-profitable operation. EXAMPLE of Risk Type: for instance, CEMEX is involved in the design & development stage of LEILAC project, SOLPART, DESTINY... all EU plants & California plant have been assessed for the need of implementing the equivalent reduction given by any of these new technologies to be in line with our ambition.
Legal	Relevant, always included	Although we are currently not subject to any climate change-related litigation, the increasingly attention and commitment of governments to comply with NDC will evolve in a more robust legislation and compliance surveillance, so increase in litigation or penalties risk. CEMEX Central Legal department is monitoring in a quarterly basis all "Regulatory Matters and Legal Proceedings" applicable to our company, including all those related to climate change. EXAMPLE of risk type: Water scarcity in some areas where we are operating is one example on how the legal proceedings and regulatory matters are included in the quarterly revision. The control from the legal perspective is the strict compliance of each water withdrawal permit, to avoid any disturbance in the water layer and a potential legal action derived from it. Another example of legal risk is every time more demanding enhanced emissions-reporting obligations and more demanding air emissions limits; we are analysing this risk as a potential emerging regulation and from the legal perspective in case of not meeting the new revised limits.
Market	Relevant, always included	The main impact on markets is likely to happen via regulation. The impact of market developments that are not driven by regulation is likely to be rather small in the short term, and changes are expected to occur very slowly. Nonetheless CEMEX has identified this as a key topic in the long run as it has the potential to reshape the industry, and is integrating it in its CO2 strategy. Types of market trends that are likely to become relevant in the long term include demand for low-carbon products or products for better energy efficiency of buildings. Low carbon products or high efficiency products demand is closely monitored by our commercial department, and our R&D in constant research of innovative solutions. EXAMPLE of risk type: the low-carbon product demand trend is assessed and crossed with R&D development to adapt our facilities to the expected demand (i.e. lightweight concrete, fiber reinforced...) and also linked to building solutions obligations imposed by regulations (i.e. adaptation of existing buildings to energy efficiency obligations in a local/country basis)
Reputation	Relevant, always included	For the time being the key reputation risks are related to our investors, but in the future it cannot be ruled out that also customers will increasingly base their purchasing decisions on our reputation. CEMEX is in constant exchange with its stakeholders to understand their views and expectations. This risk is monitored in a regular and coordinated basis by PA, Sustainability and Investor relationships. The most important channels in the context of climate change are: - regular stakeholder surveys evaluating our image and materiality matrix - dialogue with the investment community (e.g. institutional investors, financial and sustainability analysts) - review of external reports by e.g. NGOs, authorities, or media EXAMPLE of type of risk: An example of this kind of reputation risk is "the perception" the markets could have of the cement sector, as it is seen as a big contributor to CO2 global emissions, so this could affect our sales (risk) but also create some opportunities (need to extend the new low carbon products portfolio). We are monitoring in our risk assessment this potential risk, identifying the customer needs through the constant exchange with them, and this allows us to quickly identify this "lack of confidence" in our product, and constantly monitoring the press releases related to give the proper answer and take the correct actions. Additionally, we are actively participating in those cement associations of the locations where we are present, so we also discuss reputation risk and take actions accordingly (response to media). All these sources are considered when including the reputation risk and its consequences in sales in the risk-assessment process.
Acute physical	Relevant, always included	The assessment of acute physical climate risks, mainly extreme weather events such as tropical cyclones, is a constant task in our ERM system. This includes both the updating of local emergency plans as well as the collaboration with the insurer to understand the potential changes in insured risks. EXAMPLE of risk type: All areas with natural-disaster high occurrence probability are identified and the impacts are assessed in terms of production losses and reconstruction cost
Chronic physical	Relevant, always included	CEMEX operates a number of terminals and also plants directly on the sea chronic physical risks such as rising sea levels, so this physical risk could become a long-term problem for the company. Another example of chronic physical risk being monitored is the water scarcity in the areas where we operate, to ensure the operation continuity. EXAMPLE of risk type. To assess the impact of the water scarcity chronic physical risk, we evaluate the cost increase associated to other water sources or production losses. To mitigate the impact, we set a new target in 2018 to update our water scarcity map (Aqueduct tool) and update the water management plants in all those facilities with severe or high-water scarcity (applicable for all businesses)
Upstream	Relevant, always included	Upstream supply chain risks for CEMEX are always included; among others, acute disruptions of supply (e.g. tropical cyclones affecting our sources of petcoke) as well as rather chronic risks (such as less availability of slags and fly ash as a result of technological changes in the metals and power sectors driven by climate change-related legislation). EXAMPLE of Type of risk: Fly ash is expected to decline its production, as fly ash is a sub-product on the power generation of coal-fired power plants, and power plants have their own decarbonisation roadmap. So fly ash availability is monitored in a regular basis with the help of a "Cementitious focus group", comprised of members from strategic planning, commercial, operations and sustainability and the risk of lack of supply is evaluated in terms of cost increase or alternative cementitious materials cost, being assessed by R&D (lab trial or industrial trials stages)
Downstream	Relevant, sometimes included	Downstream risks other than those already discussed (e.g. under market risks) have been identified as relevant but not always included. EXAMPLE of risk type: cost increase in the distribution of our products in Colombia, due to the carbon tax on liquid and gas fuels already in place and affecting out logistic operations (distribution of products). To mitigate this risk, a carbon neutral certification was earned on the entire Colombian vehicle fleet, compensating 100% of the tax on emissions with an offset forestry project.



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

For Risks and Opportunities that potentially have a non-insurable impact on CEMEX the assessment process operates at 3 levels:

- a) Corporate: analysis and strategy development (this is the key process described in C2.2b).
- b) Regional: monitoring, risk and opportunity identification, implementation mitigation measures, reporting and follow-up;
- c) Country: local analysis, risk and opportunity identification, implementation of mitigation measures, reporting and follow-up.

In addition, the Corporate Risk Management Department assesses and manages insurable risks at asset level.

#### **CORPORATE LEVEL**

The Corporate Director Sustainability is responsible for climate change-related risk analysis at corporate level. In close collaboration with regional and country-level specialists, ERM professionals, as well as through his participation in key organizations such as the World Business Council for Sustainable Development and the New GCCA, he constantly assesses developments in the area of Climate Change. The findings and recommendations are reported officially to the Executive Vice Presidency of Sustainability and Operations and to the Sustainability Committee, a sub-set of the Board (see CC1.1a), at least twice a year.

#### **REGIONAL/COUNTRY LEVELS**

Of the five operating regions that exist, all followed regional developments and collaborated with both Corporate and Country levels. CEMEX's Europe region, for example, monitored relevant bodies that are responsible for climate change policy. CEMEX is a participating member of the EU Parliament branch of GLOBE International (known as the BEE Group).

#### **CORPORATE RISK MANAGEMENT (ASSET LEVEL - insurable risk exposure)**

The Corporate Risk Management Department provides support to the climate change risk management process in two principal areas: a) Providing information and analysis on the potential impact of climate change on our current insurance-based governance system and, b) Monitoring developments in the insurance sector.

#### **NON-INSURABLE RISKS / OPPORTUNITIES:**

Risks and opportunities are prioritized based on a number of parameters; the most important ones are probability of occurrence and potential impact on our company. However, given the enormous uncertainty there is no straightforward algorithm for ranking risks and opportunities, the decision on prioritization always involves discussions and subjective judgment by experts. Some of the criteria considered are:- How probable is the occurrence of an event?- Number of assets / production volume potentially affected in single events / at risk in general?- Will an event potentially result in interruption of business activity? If yes, will interruption be permanent or temporary? - How large is the monetary impact?- How well is the company prepared to manage the risk / opportunity?- What does it take to improve the company's capacity to react to that risk / opportunity?

#### **INSURABLE RISKS:**

The process follows the standards developed in the insurance sector and, in fact, is mostly carried out in close collaboration with our insurer. In general, many of the criteria are very similar to those mentioned above, but risks can normally be much better quantified.

**BUSINESS CONTINUITY PROGRAM:** The BCP (Business Continuity Program) initiative was launched by CEMEX in 2013, when the RRT (Rapid Response Team) was conformed at Global Level. In 2015 a consultant supported the implementation of Business Impact Analysis (BIA) in the Philippines (HQ, APO and Solid). In 2016 the ERM team was trained in the Business Continuity Institute in London and a pilot was made in 2017 in Egypt (HQ and Assiut).

The 2nd of Feb-2018, CEMEX did the official kickoff of the updated program to train country level RRTs in Dusseldorf, Germany.

**EXAMPLE of physical risk assessment process:** Identification of the risk - i.e. water scarcity in our operations affecting production / Scope of the risk: water scarcity map is updated and forecasted, so installation to be affected are targeted within the scope / Probability of occurrence and impact (severity): done in a case by case analysis for all those facilities within the scope. Impact is evaluated normally in economic terms / Risk management plan: mitigation plan in a case by case analysis (water management plan specific for the targeted facility)

**EXAMPLE of transitional risk assessment process:** Identification of the risk - i.e. EU ETS\_Phase IV (identified at country and regional level (Cembureau) / Scope of the risk: all cement EU operations / Probability of occurrence and impact (severity): the probability is 100%. The impact is evaluated at plant level (different kiln technologies and local supply sources), although the strategy is decided at Regional level (global supply sources) / Risk management plan: transition to low-carbon production at a case by case level

## C2.3

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**(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

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**(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**

<Not Applicable>

**Company- specific description**

CEMEX supports carbon pricing, particularly in the form of cap-and-trade, as the most effective and efficient means to combat climate change. However, it is very important that a pricing system is well designed, maintaining the fair competition preserving both, the industry and the climate effects if a carbon-leakage occurs; competition does not refer only to regulated and unregulated geographies, but also among potential substitute products (e.g. concrete vs. asphalt, timber or steel). To evaluate the risk of the transition to a carbon pricing regulation we evaluate and prioritize those Regions/Countries with a regulation already in place that will certainly evolve to a next phase/taxation scheme, or those with an announce new regulation in the short-term: 1. California (1 cement plant within the scope) - Already an ETS in force and designing the final rules or the new allocation period 2. All EU cement Operations (Spain (7 operations), UK (considering potential Brexit effects in two operations), Germany (1 operation), Czech Republic (1 Operation), Croatia (1 Operation), Poland (2 Operations) & Latvia (1 Operation) 3. Colombia: tax on liquid and gas fossil fuels, with a potential risk evaluated of solid fossil fuels taxation 4. México: tax on fuels in place, and with a known transition

to and ETS in the short term. Other geographies are monitored in a quarterly basis in the "CO2 Regulation focus Group" meetings, to determine their middle term impact (i.e Egypt: working with Low Emission Capacity Building (LECB) Project to evaluate the best carbon taxation scheme, other countries in SCA&C region evolving to comply with the committed NDC (Panama, Caribbean, Costa Rica))

#### Time horizon

Short-term

#### Likelihood

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)

396000000

#### Potential financial impact figure – minimum (currency)

<Not Applicable>

#### Potential financial impact figure – maximum (currency)

<Not Applicable>

#### Explanation of financial impact figure

Totals provided are indicative of the financial implications up to 2030 of all the expected changes in regulations; the following are considered: 1. EU ETS Phase IV, where most of the new allocation rules are now known, although benchmark and dynamic allocation rules are still being defined; we would have to purchase a large amount of EUAs to run our operations in the corresponding countries. UK is also evaluated separately taking into account proposal after Brexit (EUA price: 30 USD/t) // 2. California Market, where the new Phase rules are being defined now (CCA carbon price floor average (2021-2030): 26.7 USD/t // 3. Colombia, an additional tax on solid fossil fuels is likely to be in place in the short term (Expected tax on coal: 13.8 USD/t) // 4. Mexican ETS is being designed, but no financial effect is included here yet (although different scenarios have been evaluated to evaluate the risk).

#### Management method

In order to mitigate the impact of increasing the operating cost derived from strengthen the GHG (CO2) regulation and increase the GHG pricing, CEMEX monitors its balance of allowances (Balance (surplus/deficit) = free allocation in EU minus emissions), that it is directly impacting in our production cost. We are managing the risk as follows: 1. Specifically for the ETS systems (EU & Cali) the strategy is to keep the allowances surplus in current phase to cover deficit in the coming Phase IV // 2. In Feb18 CEMEX started a cement site-by-site plan, "CEMEX CO2 Roadmap", to identifying and listing all reduction initiatives, specific for each site regardless of a carbon regulation in place. The EU plan was completed in Feb19 (124 initiatives identified), and the rest of the plans are being developed now. Identified initiatives include: energy efficiency, switch to AF (biomass) or natural gas, clinker substitutes... CEMEX is also actively participating in the development of CCU (Carbon Capture Utilization) tech. as a long-term solution, in an open and constant dialogue with policy makers. Cost of management calculation: is equal to the needed investments identified already at cement site level. An example of the already identified cost includes investments to upgrading existing installations to feed AF to calciner or main burner (mainly in SCAC (South Central Am. & Caribb), Mexico, USA and Philip), and local de-carbonated raw materials (paper ash in several EU operations)

#### Cost of management

124000000

#### Comment

The cost of management is equal to the needed investments already identified at cement site level. An example of the already identified cost includes investments to switch to Alternative fuels, upgrading existing installations or need AF feeding installation to calciner or main burner (mainly in SCAC, Mexico, USA and Philippines), and identification at local level of decarbonated raw materials availability (paper ash and biomass ash in several European operations)

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#### Identifier

Risk 2

#### 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

Increased capital costs (e.g., damage to facilities)

### Company- specific description

Increased frequency and strength of tropical cyclones (as well as other extreme storms) can cause direct damage to our operations. The operations considered within the scope of this physical risk are selected based in mainly historical events derived from climate change patterns; within the scope we have operations in SCAC (South Central America & Caribbean) (Dominican Republic, Puerto Rico), Mexico gulf, the US gulf coast, and southeast Asia (Philippines). This risk specifically monitored the potential physical damage caused in the assets by extremely weather events. To identify and manage this physical risk (mainly for disruptive risks) taking a structured and homogeneous approach worldwide, CEMEX ERM (Enterprise Risk Management) launched in 2017 a so called "Business Continuity Program" (BCP), to minimize the potential impact of a disruptive event in our businesses. This program includes Emergency Support, Crisis Management and Business Recovery (details on management). Having a BCP in order has the following benefits: It reduces the recovery time after a disruptive event // It reduces the potential impact of a disruptive event // It promotes positive engagement with stakeholders in advance (staff, customers, suppliers) // It allows to anticipate and prepare for possible consequences // Beyond risk mitigation, BC can turn a crisis into an opportunity // Aligns internal efforts towards the same recovery direction or goal.

### Time horizon

Long-term

### Likelihood

About as likely as not

### 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)

3760000

### Potential financial impact figure – minimum (currency)

<Not Applicable>

### Potential financial impact figure – maximum (currency)

<Not Applicable>

### Explanation of financial impact figure

A common event of hurricane, typhoon and flooding may be in the order of 300-500 kUSD of physical damage, although higher damage in the million USD range has been observed. Please note that indirect effects (e.g. reduced production volumes) may be significantly higher than the physical damage to the assets, but this is not covered within the scope of this risk. To assess the estimated financial impact, we are including these operations mapped as high-probability of extremely weather events occurrence (2 Operations in the Philippines, 2.2 Operations in México (0.2 offices), Puerto Rico operation, Dominican Republic, 1 Operation in Colombia and 1.2 Operations in the US gulf). Risks are mitigated on a case-by-case basis through the implementation of the BCP (Business Continuity Program); in this case a damage cost of around 400 KUSD is estimated for each operation.

### Management method

The management of this risk is done in a structured approach worldwide at site by site level with the so called "Business Continuity Program". Under this program all sites should have a RRT (Rapid Response Team) in place locally. Additionally, CEMEX assesses annually all plants' exposure to weather related risks also through the LPP (Loss-Prevention Program). This program is conducted by the engineering services of CEMEX's global property insurer (FM Global) and provides each plant with a grade score by which all plants can be assessed. All recommendations from the LPP are evaluated for decision making using three criteria: 1. Financial loss expectancy should the risk occur, 2. Risk improvement ratios defined as the ratio of loss expectancy to the cost to complete the recommendation to mitigate or avoid the risk exposure, and 3. Specific catastrophe risks. Example of a BCP in place: Apo plant - The RRT is comprised of the Plant Director / Production Manager / Health&Safety officer (plant & quarry) / Security coord / Oper. superintendent / Quality Control coord / Quarry Leader / Supply Chain coord. Unfortunately, the RRT in Apo had to act in Sept18 when a landslide occurs due to downpour rains (natural Phenomenon). Cost of management calculation: the shown figure is the fee of the insurance provider in 2018. Note that the insurance mentioned here covers a wide range of physical risks, not only those related to climate change (detailed estimates are not available).

### Cost of management

30396000

### Comment

Cost of management is the fee to the insurance provider in 2018. Please note that the insurance mentioned here covers a wide range of physical risks, not only those related to climate change; detailed estimates for the latter are not available.

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#### Identifier

Risk 3

#### Where in the value chain does the risk driver occur?

Supply chain

#### 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

Extreme storm events can disrupt supply of crucial inputs; for example, in 2005, one of the most active hurricane seasons on record, hurricanes forced some major refineries on the US Gulf Coast to stop operation; as a consequence, supply of petcoke, the main fuel for many of our cement plants, was disrupted, jeopardizing the operation of some of CEMEX' plants in Mexico and the US. As recent scientific studies have fuelled the debate on whether global warming will lead to more frequent and stronger tropical cyclones we have classified the likelihood as "about as likely as not".

#### Time horizon

Current

#### Likelihood

About as likely as not

#### Magnitude of impact

Medium

#### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

#### Potential financial impact figure (currency)

129600000

#### Potential financial impact figure – minimum (currency)

<Not Applicable>

#### Potential financial impact figure – maximum (currency)

<Not Applicable>

#### Explanation of financial impact figure

To assess the estimated financial impact, all these operations mapped as high-probability of extremely weather events occurrence are included (2 Operations in the Philippines, 2.2 Operations in México (0.2 offices), Puerto Rico operation, Dominican Republic, 1 Operation in Colombia and 1.2 Operations in the US gulf). To calculate the potential loss of production, we estimate 4 months of production disruption and the EBITDA associated to these sites.

#### Management method

This risk is managed within the scope of the ERM process (dealing with the causes of a risk to prevent its materialization) and also covered within the scope of the Business Continuity Program (BCP) (risk2). This kind of risk management includes higher building construction standards, but also policy revisions, like inventory increase policies. An example of this risk management, under the scope of the BCP, is the implementation of the Business Recovery plan, which ensures the continuity and recovery of operations to keep fulfilling our commitments to our clients by improving operational resiliency and returning to business as usual. We develop recovery strategies for PREPSI (People, Resources, Equipment, Premises, Suppliers and Information). The loss of PREPSI is considered in two stages: Operational continuity (by temporary continue providing the goods or services agreed upon with customers) and Return to business as usual (recovering business back to normal levels of operation). Example of the BCP: Unfortunately, we had to run the Business Recovery Plan in the Philippines in September 2018 after a landslide in the limestone quarry due to a "natural phenomenon" (downpour rains), preserving the business continuity and managing the crisis with all related parties and stakeholders Cost of management calculation: These activities are included as part of existing operational policies and do not cause material additional costs, that is why the estimated cost is "zero".

#### Cost of management

0

**Comment**

These activities are included as part of existing operational policies and do not cause material additional costs.

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**C2.4**

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**(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**

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**(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?**

Customer

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development of climate adaptation and insurance risk solutions

**Type of financial impact**

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

*Competitive advantage*

**Company-specific description**

Experts predict that extreme weather events, such as flooding, sea-level rises and natural disasters, will make unprecedented demands on society. This will necessitate the urgent construction of secure new buildings and infrastructure. Concrete, a cement-based material, has a key role to play in helping society adapt and face the impacts of climate change in an affordable way. Concrete products can help combat and prevent the detrimental consequences of climate change by protecting people, property and the environment. Being a robust and versatile material to build resilient infrastructure, concrete can provide the level of climate proofing that will become mandatory as national building codes are revised to cope with more extreme weather events. Additionally, there are other cost savings related to resilient infrastructure: According to the National Institute of Building Sciences, every dollar spent on resilient building and construction can save six dollars in recovery costs. It is very likely to have the opportunity of increasing the demand of concrete products to adapt the buildings and infrastructure to expected climate change effects, and we are working in training and promoting concrete as the most resilient and durable construction solution, mainly in markets where we consider that effects are affecting and will affect the most, like the Southern US, Latin America, and south-east Asia.

**Time horizon**

Long-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)**

19500000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

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<Not Applicable>

### Explanation of financial impact figure

The financial impact is estimated considering an increase of 2% in the demand of concrete (and the corresponding increase in cement according its average dosing for m3) due to the need of adapting buildings and infrastructure to climate change effects. The increase of revenue coming from this 2% increase in demand is calculated for those Regions considered as more likely to be impacted, as their infrastructure is currently less adapted and the climate change effects are more likely to occur: Southern US, Latin America (Mexico, SCAC) and south-east Asia. Figures are showing annual expected revenues increase.

### Strategy to realize opportunity

Together with GCCA (global level) and other associations at Regional level we are promoting the benefits of the concrete solutions to combat the effects of climate change. Concrete plays a critical role in making cities sustainable and resilient, as it is the most durable and disaster-resistant among all construction materials. CEMEX believes that factoring resilience into a building's design can help to reduce lifetime repair and maintenance costs in hazard-prone areas and enable communities to recover more quickly from a disaster. Our products and innovative technologies support in the development of energy efficient buildings, resilient infrastructure, and affordable housing. For instance, Pervia concrete is a structural pervious concrete that can manage water permeation to offer drainage solutions for pavements and prevent major consequence of pouring rains. Beyond resilient structures, city planners are constantly challenged to provide ways to efficiently and affordably house rapidly growing urban populations. We integrate design, products, and wall systems into housing solutions that are flexible and replicable (disaster relief, energy-efficiency and affordable housing). Cost to realize the opportunity calculation: The cost to realize this opportunity is not significant, as it is part of our ongoing lobbying and technical-commercial advisory, together with the R&D activities cost that is also an ongoing cost, that is why the shown figure is zero.

### Cost to realize opportunity

0

### Comment

The cost to realize this opportunity is not significant, as it is part of our ongoing lobbying and technical-commercial advisory.

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### Identifier

Opp2

### 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

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

### Company-specific description

A number of studies have concluded that buildings are responsible for around 40% of global energy consumption and a similar percentage of GHG emissions. It is therefore crucial that the energy efficiency of buildings be improved, and the most likely way to achieve this is via more stringent energy efficiency standards for buildings. This will open several opportunities for CEMEX: - Significantly lowering total energy consumption of buildings and helping to design the "sustainable cities of the future", will most likely require an increased replacement or refurbishment of existing buildings, which means more construction activity. - It is widely recognized that concrete's thermal properties make it an excellent structural material for energy-efficient buildings in both cold and hot climates, implying that under more stringent efficiency standards the consumption of concrete per unit is likely to increase. - More stringent building codes are likely to foster the development of new materials and constructive solutions; this will give innovative companies like CEMEX a competitive edge and will allow for higher margins on these already existing and new higher performance products being developed. A very specific example was showcased on the British TV program Grand Designs; it is the Corrigan "Concrete House", which exemplifies the spirit of collaboration between our R&D, customers, architects, and engineers that CEMEX is always pursuing. The objective was to minimize, if not eliminate, conventional steel reinforcement while achieving very high thermal efficiency. Using CEMEX Resilia ultra-high strength and CEMEX hyper ductile fiber-reinforced concrete, the outcome was the first building in the UK where steel reinforcement was reduced by 75%, embodying a 39% reduction of CO2 in the concrete structure or the equivalent of 120 tCO2. Our Insularis concrete technology was also used to achieve high thermal insulation, reducing the structure's thermal bridges and its overall energy consumption by 17%.

### 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)**

5500000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

A French study ("Carbon Constrained Scenarios" by FONDDRI, [http://www.iddri.org/Publications/Rapports-and-briefing-papers/08\\_Fonddri\\_summary-for-industrial-decision-makers.pdf](http://www.iddri.org/Publications/Rapports-and-briefing-papers/08_Fonddri_summary-for-industrial-decision-makers.pdf)) finds that demand for cement in 2050 would increase by 4.5% to 16% compared to BAU in scenarios of massive decarbonization of the economy, and energy efficiency in buildings has been identified as one of the major drivers for this increase. Calculations are done considering an increase of demand of 15% for this "high-energy-efficient" portfolio of products (2% of total sales volume is related to this energy efficient products portfolio).

**Strategy to realize opportunity**

In our public and institutional relations efforts, we highlight the large and relatively low-cost potential for emission reductions in the building sector, e.g. in position papers, marketing materials, but also in direct interaction with political and other decision makers. CEMEX performs R&D projects by detecting first the future needs and challenges of the society; to detect the future needs and evaluate existing and emerging technologies, we work with the "Tech Intelligence Program", comprised of 52 CEMEX members of different disciplines gathered to collaborate evaluating "technology alerts" (emerging or already developed) and a survey is done to collect their impressions on the technology. Another example is the partnering with ICF Performance to deploy the THERMOFORM® solution in France, a next-generation insulated shuttering system with very high thermal performance, combining the high performance of polystyrene and concrete. Another example is our new U.S. headquarters, earning LEED Gold Certificate, including 52% power reduction for the building. Cost to realize the oppor: The cost of developing a new high-energy-efficiency product will depend on a number of circumstances and it is already part of our R&D activities. On the top of this, there are expenses for e.g. certification and market introduction that are typically higher than the actual development cost. The estimated cost is related to the extra cost of development and market penetration of a new product.

**Cost to realize opportunity**

500000

**Comment**

The cost of developing a new high-energy-efficiency products will depend on a number of circumstances and it is already part of our R&D activities. On the top of this, there are expenses for e.g. certification and market introduction that are typically higher than the actual development cost. The estimated cost is related to the extra cost of development and market penetration of a new product

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**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of lower-emission sources of energy

**Type of financial impact**

Reduced exposure to future fossil fuel price increases

**Company-specific description**

The importance of our sector in the waste hierarchy is vital, and to position our sector as an important contributor to this waste hierarchy is one of our aims. In 2018, the EU Waste Directive Framework update includes the circular economy concept in all the related regulations. European Commission (EC) aims to highlight technically feasible options and improve the potential of Waste-to-Energy operations in the EU, and co-processing of waste in the cement industry is one of the options. Additionally, EC aims to the administrations to put in place economic instruments and other measures to provide incentives for the application of the waste hierarchy, such as landfill charges and restrictions, so prices of the RDF are expected to decrease. We realize that the benefits of co-processing (switching from conventional fossil fuels to Alternative Fuels, mainly RDF (Refuse Derived Fuels) are sometimes not widely understood in our areas of influence, especially in other Regions like Latin America, Asia and some areas in the USA. The



primary advantage of AF utilisation in cement kilns is that waste material content is recycled into final product, bringing together both energy recovery and material recycling (which is one step higher on the waste hierarchy), and allowing not to have residual bottom ash produced from the waste incineration process, as it is integrated in the final product. The opportunity is for both, the environment and the potential economic opportunity if regulation is fulfilled equally, as imposing taxes and restrictions to landfills is one of the economical instruments proposed by the EU Commission, so at least a slight reduction in the Alternative Fuels cost is expected, mainly for RDF. CEMEX is demonstrating its contribution to the circular economy with its results: CEMEX has become a "waste eater" and in 2018 we consumed 32 times more residues from other sectors than the amount of waste we generated and sent for disposal. The best example to demonstrate that the compliance of the waste hierarchy (within the framework of the waste directive) is a very important lever to reach a good performance in %AF (Alternative Fuels) substitution rate, is our own results: Countries like Germany, where the waste directive and its economic instruments is fully implemented, and where our substitution rates have exceeded 75%-80% within the last 5 years

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

7100000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

As the potential impact identified is to reduce the exposure to future fossil fuel price increase through the switching from fossil fuels to alternative fuels (AF), the financial impact figure shown is calculated assuming that we will have an average saving of 43% (comparing Gcal fossil fuel cost vs. Gcal AF cost) and for an increase of a 10% of the total thermal substitution of the all the cement operations worldwide in a year (financial impact is a yearly saving)

**Strategy to realize opportunity**

The identified opportunity is to use lower-emissions sources of energy We started to develop several contacts to the local/Regional/National and European administration, directly or in collaboration with Cembureau, to promote the implementation of the waste hierarchy stated in the EU Waste Directive (Directive 2008/98/EC\_ Modified by Directive 2018/851). The same approach is being taking in other Regions, were the benefits of co-processing are also being promoted mainly with communities and local and regional governments. The cost to implement this initiative in the middle term worldwide is the cost of the lobbying actions to implement the waste hierarchy promoted by the EU Waste Directive.

**Cost to realize opportunity**

400000

**Comment**

The cost to implement this initiative in the middle term worldwide is the cost of the lobbying actions to implement the waste hierarchy promoted by the EU Waste Directive

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C2.5

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

	Impact	Description
Products and services	Impacted	A number of the risks and opportunities identified above have already had an impact on the demand of products and services, to adapt our facilities to combat climate change effects (risk mitigation) and to provide solutions to the customers (opportunity). But there are still many opportunities in the increase of product demand that are being monitored, and that is why CEMEX set a target in 2018 to monitor the sales of products (cement and ready mix) with outstanding sustainable attributes. The example of the already impacted is the participation of CEMEX in the largest European ongoing urban infrastructure project, the "Grand Paris"; CEMEX's proposal consisted of an innovative paving solution (Pervia) for the area surrounding a public school in the heart of Paris. Pervia concrete technology was used to enable rainwater to filter through the natural soil and avoid flooding, while our inclusion of photoluminescent aggregates provided a unique character and night effect to the surroundings. The magnitude of this opportunity is low-medium yet, but we are foreseen a medium impact in the middle-term; we observed a slight increase (low magnitude yet) in demand of products with outstanding sustainable attributes, from 1.7% to 2.3% in 2018, mainly in Florida and West and Mid-South USA, Germany, UK and Pacific (8% of our production sites)
Supply chain and/or value chain	Impacted	Our risks 2 and 3 (potential damage to facilities and the potential disruption in production) have already impacted our operations in the last decade with a low-medium impact magnitude. We unfortunately experienced several disruptions in our supply chain caused by changes in likelihood and severity of natural disasters, affecting just 0.2% of our business units (in number) in the last decade. Some example of these disruptions: - In late 2013, a flood affected our operation in South Ferriby (UK), causing close to a year without operating the cement plant. - In SCA&C we have had several examples of cyclones and hurricanes affecting our operations in Dominican Republic and Puerto Rico in 2017 - Also, in 2017 we experience in our facilities in Houston the devastating impacts of Irma and Harvey Hurricanes crossing Florida and Texas - In 2005 some of our cement plants in the Americas were affected moderately by the disruption of petcoke supply after hurricane Katrina had hit a number of refineries on the US Gulf coast. - Maritime & logistics disruption due to adverse weather conditions in rainy season (Jun-Dec) in our operations in the Philippines So, we monitor in 100% of our operations and take action (Business Continuity Program) to other climate regular and repeated patterns affecting the demand and the supply chain of our products.: While it was possible to keep actual damage to a minimum (by switching to other suppliers, for example) CEMEX has developed a number of measures (such as an adjusted inventory policy for the hurricane season) to avoid potential future impacts. All other parts of the supply chain (mainly other fuels, spare parts, minerals) have not been identified as being subject to material climate change-related risks.
Adaptation and mitigation activities	Impacted	The adaptation and mitigation activities have had already a medium-high impact (magnitude) in our businesses. Through the Business Continuity Program and the evaluation of insurable risk, we are adapting our operations as required (risk 2 and 3); for example, As part of our "CEMEX CO2 Roadmap" we are implementing already several mitigation actions to reduce our carbon emissions; an example of this kind of commitment is shown with the investment we are carrying out in Poland, where a new production line started up in July 2019; the new line is much more efficient than the former 2 lines, having a higher thermal and electrical efficiency. Many other investments we are being carrying out in most of the operations to mitigate the risk of climate change and as part of our commitment. This plan is being rolled out first in 100% of our cement operations. Additionally, the adaptation is also an opportunity, as already identified in Opportunity 1, as the sales of resilience materials is increasing, and it is expected to increase even more.
Investment in R&D	Impacted	R&D is key for managing a number of risks (mainly risk 1) and opportunities (opportunity 1 and 2), so it is considered as high impact (magnitude). As a consequence, CEMEX has increased its R&D efforts with a focus on: - products with a lower CO2 footprint (opportunity) - products enabling our clients to lower their footprint (avoided emissions) - products with outstanding sustainable attributes (opportunity) - products improving the energy efficiency and resilience (opportunities) - breakthrough technologies for CO2 reduction such as CCS&U (Carbon Capture, Storage and Utilization) - CEMEX collaboration in several projects in the context of H2020 (EU) and in USA (NPC) - this is part of the risk 1. We have an indirect opportunity of reducing our emissions with CCU & S technologies, but it is considered a risk not to find profitable solutions, as these new technologies are a must to comply with our CO2 roadmap reduction. We estimate that around 35-40% of our R&D expenditure is no new developments where environmental benefits are the main driver.
Operations	Impacted	Operations play a key role in all risks identified and in all identified opportunities, so we consider this as medium impact and it is foreseen as high impact (magnitude) in the middle term and moreover in the long term. In line with the measures discussed under 'Adaptation and mitigation activities', most of our operations are subject to an external carbon price signal (e.g. EU ETS for Europe), so it is a need to adapt the operations to a lower carbon footprint. Even more, as already mentioned, regardless of the local regulation we are rolling out the "CEMEX CO2 Roadmap" in 100% of our cement operations. Additionally, together with R&D, the operations are the vehicle to produce and distribute the new products that we are already developing to our markets (new products with a lower carbon footprint or outstanding sustainable attributes). The developments are analysed for implementation in all the operations, although we prioritize the implementation taking into account the specific market (customer needs) Examples of impact in our operations are all the investments that we have been executing for a long time in AF (Alternative Fuels displacing fossil fuels). The scope is 100% of cement operations but the focus now is in the operations in México and SCAC (South Central America & Caribbean). Other examples are, the participation in GENESIS project (H2020) in Latvia (CCU – Carbon Capture and Utilization) and some other projects pilot projects in other businesses like the "carbon cure" project in one of our ready-mix operations in the USA in 2019, utilizing CO2 to produce concrete.
Other, please specify	Impacted	COMMUNICATIONS In particular the reputational risk and opportunity require an adequate communications effort. Over time CEMEX has improved its communication not only on climate change, but sustainability in general, including but not limited to - regular participation in the CDP, - publication of one of the first integrated reports in the sector, - participation in the World Bank-led Carbon Pricing Leadership Coalition, - publication of position papers detailing our view on key topics related to climate change, - efforts to communicate about the advantages of concrete as a sustainable material in many applications - collaboration with international (GCCA) and regional (CEMBUREAU) institutions

**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	Revenues are mainly affected by the increase in sales expected for the new low carbon, resilient and low carbon products (Opp 1 and 2). We are already having an impact in the revenues, however we notice that, as soon as the customer understands the magnitude and importance of having a lower carbon footprint, and of the life cycle assessment of a product, the opportunity will be even higher, and our R&D have to be constantly adapting to the customer and society needs. To factor these opportunities into our financial planning process, we consider a medium magnitude of these type of products (as stated in 2.4.a. Opp 1 and Opp 2) and we estimate the sales increase expected annually and calculate the associated revenues. Magnitude: medium. The revenues associated to the sale of this products increased 0.5% from 2017 to 2018 (not further disclose can be provided). This 0.5% is a very low impact yet (magnitude), but as it has been commented in "products and services", we are expecting a medium impact in the middle term (next 5-6 years' time) and a medium-high impact in the long term, and the scope is 100% of our business units.
Operating costs	Impacted	The operating cost is already being impacted by: - Changes in regulations (Risk 1) increasing operating production cost mainly in EU cement operations, California cement operation. For example, under the EU ETS, the free allocation is already being reduced by -1.7% annually due to the CSCF correction (2018 vs. 2017), so free allocations are being annually reduced, so impacting our operating cost per ton of clinker (cannot be disclosed the impact in cost). We are including this operating cost increase effect within the OCF (Operating Cash Flow) forecast in the short term (5 Year Business Plan) and moreover, considering the OCF impact in the middle term by simulating the already know rules of the Phase IV (in EU and California) and also the mitigation actions we are carrying out to reduce the impact. - Observing already a reduction of Alternative Fuels price, so meaning an operating cost decrease, in some regions already mature and committed to circular economy, so we are expecting less dependency on prices of fossil fuel sources (Opp.3). As a reference, we are finding new Alternative Fuels opportunities in very specific areas (UK) with a 5% of cost decrease compared to previous contracts. The impact of this lever is still low, and it is just affecting to some EU operations (mainly UK and Poland), but we are including the potential effect in the middle term financial planning process (5 Year Business Plan, that is updated annually the minimum, and every time a relevant change arise)
Capital expenditures / capital allocation	Impacted	Capital allocation has an important role for all identified risks and all identified opportunities, so it is factored within our financial planning process with a high impact (magnitude). While climate change-related risks and opportunities are relevant for all kinds of capital, the main areas where they factor into the CEMEX planning process are the following: - Financial capital: systematic consideration of costs induced by GHG regulation (e.g. taxes, cost for purchase of allowances) in the evaluation of investment projects; general stress testing of our mid-term financial planning by applying a uniform internal carbon price of USD 30 per metric tonne of CO2 and a sensitivity analysis with different prices to evaluate the robustness of the investment. - Human Capital: Increasingly stronger focus on climate change-related topics, e.g. R&D into low-carbon technologies and products; further development of climate management and related processes; investigation of the life-cycle impact of our products and services; transparent communication around the company's carbon strategy, performance, and advantages of our products and services - Natural Capital: evaluation of mineral deposits for raw materials for low-carbon products; evaluation of projects to grow biomass as alternative fuel Example of the impact is that our climate change/low carbon investment increased by more than 17%, and it is planned to increase much more in the coming years, as we planned in our "CO2 Roadmap"
Acquisitions and divestments	Impacted	All climate-related risks and opportunities are systematically integrated into the evaluation of acquisitions and divestments. The results will certainly depend on the size of the transaction in question but may range from low impact to being a substantial part of the overall value; as a systematic approach, the climate related risk is always considered in our acquisition and divestment planning process and factored within a high impact (magnitude). For instance, we announced the temporary closing of two operations in Spain, and one of the drivers to take this decision was the higher specific emissions of these operations (we cannot disclose more detailed information), so the production cost increase expected in the long term (risk evaluation).
Access to capital	Impacted	The access to capital is an opportunity that is already impacting our operations with a medium impact (magnitude), and we are foreseen a potential to become a high impact risk. Investors, particularly institutional investors, increasingly consider climate-related risks and opportunities in the evaluation of their portfolios, and CEMEX maintains an open and transparent dialogue with all interested investors and informs them about the company's strategy and performance. For instance, we got a green loan by IFC, the World Bank's private sector lending arm (USD 120 million) in 2017. Additionally, we are getting subsidies in the context of the EU "Innovation Funds" to support our new technologies R&D (H2020).
Assets	Impacted	The climate-related risks, mainly risk 1, is already affecting our assets with a medium impact (magnitude). We are developing a plan at site by site level to be able to reduce our emissions, and several investments are being carried out already to adapt our operation to a lower carbon future. For instance, the new line that is under construction in Poland, more efficient in terms of thermal and electrical consumption, is the demonstration of our commitment to a lower carbon footprint (more than 30 USD million have been allocated).
Liabilities	Not yet impacted	Although we are not registering any relevant impact in our liabilities yet, we are expecting a high impact (magnitude) on the future liabilities related to risk 1 from 2021 on and in a yearly basis; From 2021 on, in EU and USA we are estimating an amount of allowances' deficit (Balance = free allocated emissions minus emissions = deficit/surplus) between 1-2 million allowances per year and over 10 years. From 2021 on, due to the expected changes in both regulations, the liabilities will have to be registered in our accounting.
Other	Please select	

**C3. Business Strategy**

**C3.1**

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

Yes

**C3.1a**

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

Yes, qualitative and quantitative

**C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b**

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**(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

Yes

**C3.1c**

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

The climate change strategy is fully embedded and integrated in our business strategy and in our business objectives. Regarding objectives, and as part of the revision of our strategy, we published this year (2018 Integrated Report) new ambitions for 2030 (the former targets were set for 2020): Reduction of 29% of net CO2 emissions per cementitious products vs. 1990, 40% of electricity consumption from renewable sources in cement, total consumption of waste-derived sources from other industries of 19 million ton (to mitigate the impact of the fossil fuels emissions and process emissions), 50% of annual sales from cement and ready-mix concrete products with outstanding sustainable attributes, together with some other targets for water rationale usage, other emissions to air and forestry and biodiversity care (carbon sinks).

About how are we integrating and updating the Climate Change strategy in our business strategy, we explain next how the process is, and how the short-term and long-term strategy and actions and business decisions look like:

i. PROCESS

The Corporate Director Sustainability is responsible for coordinating the process of developing and updating the company's Climate Change strategy. The basic strategy was developed based on a thorough analysis of both internal (e.g. mitigation potential) and external (e.g. regulatory developments and market trends) circumstances, and it is revisited for a potential update every quarter.

In 2018, we reinforced our short- middle and long-term strategy (C2.3.a) as per request and commitment of the Exco, by deploying a cement site-by-site roadmap to identify all CO2 reduction initiatives for each site, regardless of a carbon regulation in place. All CEMEX operations and key corporate VPs are represented in this process.

Additionally, the Corporate Director Sustainability is supported by the "CO2 Regulation Focus Group", analysing internal (e.g. progress towards our emission target) and external (e.g. regulatory developments) factors and proposing changes to the strategy (all geographies are represented).

All the outcomes of this climate change strategy revision are discussed with the ExCo and the Sustainability Committee (Board Level)

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before they are signed off by the CEO.

## ii. MAIN ASPECTS OF CLIMATE CHANGE

The predominant aspects are regulation triggered by climate change policies, e.g. carbon taxes or cap and trade, and our voluntary carbon target. However, other aspects such as reputation and consumer behaviour have an increasing importance, particularly for identifying and seizing opportunities.

## iii. SHORT-TERM STRATEGY

Particularly the regulatory risks have triggered additional efforts to improve our carbon balance by:

- Technical measures (increased use of AF, particularly biomass; upgrade inefficient kilns; increased use of clinker substitutes)
- Development of offset projects, particularly in our electricity supply chain, and sourcing low-carbon electricity and green fleet vehicles
- Organizational measures such as awareness raising, monitoring and reporting of emissions, implementation of carbon footprint tool

## iv. LONG-TERM STRATEGY

In our long-term strategy the following elements are directly related to climate change; even more than the short-term strategic impacts they are driven by a number of opportunities:

- Commitment to an emissions reduction goal and subsequently other goals to support this commitment (e.g. percentage of alternative fuels)
- Increased focus on the life-cycle emissions of our products: In order to minimize the GHG emissions from the built environment one has to do an integrated assessment of emissions over the full life cycle of buildings and structures
- Other efforts in this field include: Communication of the life-cycle advantages of our products / Development of new value-added products / Promotion of energy efficiency to local communities, customers, and vendors / Sponsorship of contests to promote sustainable and innovative building designs, such as the annual CEMEX Building Awards in the U.S.

## v. STRATEGIC ADVANTAGE

The short-term measures create a direct and measurable impact; reductions in EU countries or in offset projects translate directly into cost advantages and/or additional revenues. Our focus on life-cycle emissions allows us to offer products with superior value for our clients and to communicate this advantage in the market place. In addition to those advantages that are directly related to climate change many of the actions have positive side benefits such as a stabilization of our energy costs.

## vi. BUSINESS DECISIONS

Some of the key decisions include:

- Development and implementation of a "Carbon Footprint methodology and tool" for our main businesses (cement, aggregates, and ready-mix concrete) the results of which are regularly communicated to our stakeholders. Using this tool we can provide customers with the CO2 footprint of each one of the products we supply to them, so they in turn can calculate the CO2 footprint of their construction projects
- In 2018, we have developed new challenging targets for a number of climate change-related KPIs. We believe that making the transition from waste management to circular economy is essential to reach a truly sustainable, low-carbon, resource-efficient, and competitive economy. CEMEX has become a "waste eater" and in 2018 we consumed 32 times more residues from other sectors than the amount of waste we generated and sent for disposal. This is precisely the rationale behind our 2030 vision (Total consumption of waste-derived sources) as an active contributor to a global circular economy. In 2018 we reached an alternative fuels substitution rate of 27.1%, the highest in the past four years.
- In each of the last years a number of decisions to invest in energy efficiency, renewable energy, clinker substitutes, or alternative fuels have been triggered by our Climate Change strategy and our voluntary goal to reduce emissions. To reinforce this commitment, in 2018 we set a new target for 2030 to reach a level of 40% of power consumption coming from renewable sources in our cement operations (see also C4.3b)
- Climate Change plays an increasingly important role in the selection of suppliers, particularly for electrical energy. Again, to reinforce this commitment, we continue working with Supplier Sustainability Program for critical suppliers, by setting a new internal target to measure the share of spend assessed under this program.

- CEMEX is providing different Green Building Certification Services, like ecooperating building certification, urban development consultancy, green building certification, bioclimatic architecture, energy efficient engineering together with sustainable materials and solutions development. During 2018 we also provided products and solutions for more than 1,000 projects that aim to achieve LEED or BREAM certifications, representing close to 6 million m2 of construction space.

### C3.1d

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

Climate-related scenarios	Details
2DS	<p>The climate-related scenario analysis used by CEMEX is the 2DS as a central scenario, in accordance with the sectorial approach published by a joint effort IEA-CSI Cement Low-Carbon Technology Roadmap in 2018 (based on ETP 2015 for all the industry using SDA methodology). Other scenarios considered include both more restrictive (2DS_ETP 2017 and B2DS - ETP 2017, the latter compatible with Well-Below 2°C Scenario) and less regulated (RCP 4.5, RCP 6.0) scenarios. The geographical scope of the scenarios is global, and the time horizon the year 2050. CEMEX target 2030 is aligned with this 2DS calculations. The five scenarios used are complemented by a concise and consistent narrative that details some of the open topics such as regulatory framework, physical risks, public opinion and particularly the corresponding indicative price of carbon emissions; the latter is informed by official sources (e.g. the IEA ECP scenarios). In all scenarios the potential implications for CEMEX are analyzed in a qualitative and quantitative way (Best Estimate). In the area of the physical impacts of climate change the analysis discusses both risks for our assets as well as potential risks and opportunities in our markets; in the area of transitional risks the focus is very much on the consequences of climate change-related legislation, including margin effects, volume effects, stranded assets, and the profitability of R&amp;D into low-carbon processes and products. The main results of the analysis are: - Transitional risks and opportunities are far more relevant for CEMEX than physical ones; - The more CO2 emissions are constrained the more relevant are transitional risks; - Transitional risks are not a challenge for the sector (defined as production of mineral binders, not necessary as traditional Portland cement) as a whole (because of a lack of suitable substitutes), but in most scenarios will play a decisive role for the competitiveness of individual companies within the sector - although the profitability of R&amp;D into low-carbon solutions is highest in the most carbon-constrained scenarios, they are still attractive in the least constrained one - Particularly in the most constrained scenarios the need to develop new business models becomes apparent. The results of this analysis confirm that CEMEX' carbon strategy is in general robust. It underlines the need to integrate further emission reduction options that go beyond the traditional levers (energy efficiency, alternative fuels, and clinker substitutes). These results feed directly into the further evolution of our carbon strategy and targets. As a consequence of the scenario analysis - our new long-term CO2 target will most likely go beyond what can be achieved with traditional levers, - R&amp;D into non-traditional emission reduction options will be further strengthened; for example, the development and roll-out of our new low-carbon clinker (that shows an emission reduction of over 15% compared to traditional Portland cement clinker) was sped up mainly in Mexico and Spain. The scenario analysis has not resulted in additional monitoring activities as the existing monitoring processes for CO2 emissions and other KPIs related to climate are considered adequate. The results of the analysis have been reported to the Corporate Sustainability Director, the Executive VP for Sustainability and Operations Development, the Executive Committee and the Board.</p>

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

**(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e)**  
**Disclose details of your organization's low-carbon transition plan.**

CEMEX' low-carbon transition plan covers all relevant aspects such as the minimization of our own carbon footprint in all businesses, the development and commercialization of products that support the low-carbon transition and the continuous collaboration with all stakeholders to develop the framework for a low-carbon and resilient world. Work on the update of our transition is currently ongoing, including a new target for 2030, published in the Integrated Report 2018, and working on a target beyond. This target is aligned with the 2DS ambition (based on ETP 2015 - CSI-IEA Technology Roadmap 2018).

#### **Minimization of our own carbon footprint**

CEMEX is on track to meet its new target of a 29% reduction (compared to our 1990 baseline) of CO<sub>2</sub> emissions per metric tonne of cementitious material in 2030, and even working on new targets beyond. The key levers to ensure long-term reductions of our own CO<sub>2</sub> emissions include:

- Improvement of energy efficiency of our plants, both, thermal and electrical
- Substitution of conventional fossil fuels with low-carbon alternative fuels or natural gas (so, reduce the emissions intensity of the fuel-mix)
- Reduction of our clinker-cement ratio
- Development and roll-out of novel clinker and cement types
- R&D, mainly in the capture and subsequent storage or utilization of CO<sub>2</sub> emitted from our processes, including concrete re-carbonation.

#### **CEMEX is aware of its responsibility in the entire value chain, so also in our supply chain.**

As a result we have been trying to reduce our scope 2 emissions for more than a decade by sourcing electricity from renewable sources, getting a 26% of our cement operations electricity consumption coming from renewable sources in 2018; the most prominent example was the development of the Eurus and Ventika I and II wind farms in Mexico with a combined capacity of more than 500 MW. In 2018 we reinforce our commitment setting a target of 40% of the electricity coming from renewable in cement.

#### **Development and commercialization of products that support the low-carbon transition and value-added products**

Cement and concrete already provide a number of characteristics that are important for a low-carbon transition, such as longevity, resistance, wide availability etc. In fact, most technologies and other solutions currently debated will rely to an important degree on concrete. Nonetheless there is still a significant potential for further developments to e.g. improve the insulating properties of concrete, further increase its strength, or to implement smart functions to increase maintenance intervals and technical lifetimes. As one of the industry leaders CEMEX will continue to be at the forefront of these developments with the help of our R&D department. Please also see our answer to question C4.5.

#### **Collaboration with all stakeholders to develop the framework for a low-carbon and resilient world**

CEMEX is aware of the fact that the challenge of climate change requires collaboration at a number of levels. We are working with stakeholders, particularly governments and authorities, to develop frameworks that allow society to effectively and efficiently transition to a low-carbon world and to adapt to those consequences of climate change that cannot be avoided any more. CEMEX is building a better future, enabling the development of durable infrastructure with quality products and construction practices with reduced environmental impact. Our products and innovative technologies support in the development of energy efficient buildings, resilient infrastructure, and affordable housing, thus contributing to UN SDG 11 (Sustainable Cities and Communities). Please see also our answers to questions C2.3a, C2.4a, and C12.

## **C4. Targets and performance**

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### **C4.1**

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

Intensity target

**C4.1b**

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**(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**

99

**Targeted % reduction from base year**

29

**Metric**

Metric tons CO<sub>2</sub>e per metric ton of cement\*

**Base year**

1990

**Start year**

2018

**Normalized base year emissions covered by target (metric tons CO<sub>2</sub>e)**

0.8036

**Target year**

2030

**Is this a science-based target?**

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

**% of target achieved**

74

**Target status**

New

**Please explain**

Target covers only emissions from our cement operations. Other operations (concrete, aggregates, asphalt) are not covered by the target but make up approximately 1% of our combined scope 1+2 emissions. Latest calculations indicate that reductions in specific emissions will offset growth in demand for our products.

**% change anticipated in absolute Scope 1+2 emissions**

-3

**% change anticipated in absolute Scope 3 emissions**

0

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**C4.2**

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

**Target**

Renewable electricity consumption (Power consumption from renewable energy in cement)

**KPI – Metric numerator**

Amount of power consumed from renewable energy in cement plants (in kWh)

**KPI – Metric denominator (intensity targets only)**

Total power consumption in cement plants (in kWh)

**Base year**

2018

**Start year**

2018

**Target year**

2030

**KPI in baseline year**

26

**KPI in target year**

40

**% achieved in reporting year**

65

**Target Status**

New

**Please explain**

Target covers all our cement operations worldwide. 2030 Target: 40%; 2018 value: 26% Consumption of energy from renewable sources decrease the company's CO2 indirect emissions.

**Part of emissions target**

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

**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	24	669260
To be implemented*	7	216381
Implementation commenced*	4	26072
Implemented*	19	111963
Not to be implemented	5	65043

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

**Initiative type**

Energy efficiency: Processes (Fuel mix intensity (Alternative Fuels Switching))

**Description of initiative**

Fuel switch

**Estimated annual CO2e savings (metric tonnes CO2e)**

58021

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

2312000

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

4009000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Fuel Switch: Alternative Fuel projects to increase percentage of substitution. Alternative fuels in our kilns to reduce scope 1 emissions. 9 new projects were completed along 2018 (Mexico, USA, Egypt and Jamaica). The shown figures represent annual savings.

**Initiative type**

Energy efficiency: Processes

**Description of initiative**

Machine replacement

**Estimated annual CO2e savings (metric tonnes CO2e)**

3042

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

408000

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

324000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

11-15 years

**Comment**

High efficiency air separators or their components (shaft, main drive, motor) have been installed in 6 mills (cement and raw meal) in order to improve electricity efficiency (production improvement)

**Initiative type**

Process emissions reductions

**Description of initiative**

Process materials selection

**Estimated annual CO2e savings (metric tonnes CO2e)**

50900

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

164000

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

69000

**Payback period**

&lt;1 year

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Clinker factor improvement, mainly in Egypt with the production of a new low-carbon-cement (new product uses clinker with approximately 20% natural pozzolanic material after it has been treated mechanically and chemically). Other clinker factor initiatives in UK and Spain are included.

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

Method	Comment
Compliance with regulatory requirements/standards	This includes compliance with emissions trading schemes such as the EU ETS
Financial optimization calculations	These integrate the price of carbon induced by emissions trading schemes and offset programs.
Other	Best practice sharing: CEMEX shares the success stories in the official meetings (CO2 Regulation Focus Group, Meeting Sustainability Regional Coordinations, Environmental Experts meetings) and CEMEX business units share success stories via intranet tools (teams platform).
Partnering with governments on technology development	CEMEX constantly participates in a number of R+D projects that are partly funded by governments; many of these projects are related to emission reduction technologies.
Internal incentives/recognition programs	CEMEX sets targets not only for emission intensity, but also for individual key levers such as the percentage of low-carbon alternative fuels in our overall fuel portfolio. Additionally, we created in 2018 a recognition mechanism, recognizing two categories in the sustainability KPI: the best mover (best improvement) and the champion in each category (including climate change related targets (specific emissions per ton of cementitious, %AF, %clinker factor...))
Dedicated budget for low-carbon product R&D	There is a specific budget dedicated for low-carbon-products R&D or energy efficient products assigned to our Global R&D Center in Switzerland

**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

Our main products, cement and concrete, are absolutely indispensable for the transformation to a low-carbon society. The sectors where intelligent use of our products enables improvements in the CO<sub>2</sub> intensity range from residential (new, more efficient buildings, use of concrete's thermal mass and inherent long-term air tightness) to transport (rigid road surfaces, railway lines) to energy generation (foundations, towers, buildings for renewable energy systems such as wind turbines or solar power plants). Whether these emission reductions are in scopes 1, 2 or 3 of the third party depends on the circumstances. For example, if a building generates its own heat and/or cold, the energy savings would lead to emission reductions in scope 1 of the building operator; if the building gets heat and cold from a local network the reductions would be in scope 2. CEMEX relies mostly on the tool of Life-Cycle Assessment (LCA) in order to determine net savings related to the use of our products; we both perform in-house analyses and analyze external studies (e.g. recent studies published by the Concrete Sustainability Hub (CSHub) at the Massachusetts Institute of Technology, <http://web.mit.edu/cshub/>); if applicable, GWPs used are those as reported by the IPCC for a 100 year horizon. The potential for reduction and the timescales are highly dependent on the application, design, and local circumstances; however, first internal estimates show that the time in which those reductions offset the initial emissions from the production of our products is typically well below the lifetime of the relevant buildings and structures. While we currently do not have detailed figures for total emission reductions due to the use of our products, we estimate that the products we sell in one year generate direct savings of at least several million years over the full lifetime of the structures (which is typically several decades). In addition, we include here cementitious products that fulfil certain minimum requirements in terms of CO<sub>2</sub>-related indicators.

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

Low-carbon product and avoided emissions

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

Other, please specify (literature research, extrapolations)

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

51

### Comment

CEMEX is working with other members of the Cement Sustainability Initiative, now an effort belonging to the Global Cement and Concrete Association, on a methodology that will allow us to quantify the downstream impacts of our products in a consistent way. We roughly estimate that at least 50% of our product sales lead to emission reductions in the in-use phase compared to potential substitutes. R&D expenses refer to product development, not process development.

## C-CE4.9

**(C-CE4.9) Disclose your organization's best available techniques as a percentage of Portland cement clinker production capacity.**

	Total production capacity coverage (%)
4+ cyclone preheating	94
Pre-calciner	60

## 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 1990

**Base year end**

December 31 1990

**Base year emissions (metric tons CO2e)**

42961098

**Comment**

Adjusted for recent acquisitions. Please note this covers only our cement operations as no data available for other business lines in 1990 (in 2018 these represented less than 1% of total scope 1 emissions)

**Scope 2 (location-based)**

**Base year start**

January 1 1990

**Base year end**

December 31 1990

**Base year emissions (metric tons CO2e)**

3581242

**Comment**

Adjusted for recent acquisitions. Please note this covers only our cement operations as no data available for other business lines in 1990 (in 2018 these represented less than 10% of total scope 2 emissions)

**Scope 2 (market-based)**

**Base year start**

January 1 1990

**Base year end**

December 31 1990

**Base year emissions (metric tons CO2e)**

3581242

**Comment**

Adjusted for recent acquisitions. Please note this covers only our cement operations as no data available for other business lines in 1990 (in 2018 these represented less than 10% of total scope 2 emissions) Location- and market-based scope 2 emissions in the base year are the same because at the time there was practically no choice of options.

**C5.2**

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**(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.**

WBCSD: The Cement CO2 and Energy Protocol

Other, please specify (Internal tools, see C5.2a)

**C5.2a**

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**(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 ready-mix & aggregates operations, data for scope 1 and 2 have been extrapolated from data collected with the CEMEX CO2 footprint methodology from 2013 taking the production volume from 2018; this methodology assesses the total GHG footprint on a cradle-to-gate basis and is in compliance with most currently available standards for carbon footprints (PAS 2050, ISO 14040).

## C6. Emissions data

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### C6.1

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**(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)**

43402376

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

### C6.2

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

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

### C6.3

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

**Reporting year**

**Scope 2, location-based**

3623511

**Scope 2, market-based (if applicable)**

3740270

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

**C6.4**

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**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

**C6.4a**

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**(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

**Source**

Building Product Operations

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

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

Emissions are not relevant

**Explain why this source is excluded**

Very small emissions compared to other business lines

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**Source**

Offices

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

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

Emissions are not relevant

**Explain why this source is excluded**

Very small emissions compared to plant operations

---

**Source**

Logistics Operations

**Relevance of Scope 1 emissions from this source**

No emissions excluded

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

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

Emissions are not relevant

**Explain why this source is excluded**

Emissions from logistics are included in scope 3 due to 1. their relatively small amount (compared to kiln operations) and 2. methodological issues (separating own fleet from third party transportation would be extremely data-intensive). This is in line with WBCSD-CSI guidance on scope 3 emissions in the cement sector.

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## C6.5

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**(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**

5658450

### **Emissions calculation methodology**

Purchases of clinker and cement from third parties are multiplied with generic emission factors.

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

### **Explanation**

## **Capital goods**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Explanation**

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

2075709

### **Emissions calculation methodology**

Calculated based on detailed energy consumption figures (taken from the protocol for Scope 1+2 emissions for cement, and from other internal data management systems for other businesses) and emission factors for cradle-to-gate GHG emissions from LCA database.

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

### **Explanation**

## **Upstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

1871591

### **Emissions calculation methodology**

Calculated from data collected with the CEMEX CO2 Footprint methodology from 2013 taking the production volume from 2018; this methodology assesses the total GHG footprint on a cradle to gate basis and is in compliance with most currently available standards for carbon footprints. Scope is restricted to relevant purchased goods and services (normally purchased clinker and cement).

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

### **Explanation**

## Waste generated in operations

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Business travel

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as potentially relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development; however, previous calculations in CEMEX show that business travel is not relevant for us.

## Employee commuting

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as potentially relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development; however, internal analyses show that emissions from employee commuting are likely to be in the range of 0.1% of our combined scope 1 and scope 2 emissions.

## Upstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

268218

### Emissions calculation methodology

Seaborne transportation of clinker and cement by our trading operations, based on total distance traveled and assessment of specific fuel consumption. Emissions from maritime transport of products are calculated by multiplying total fuel oil consumption with the corresponding emission factor. Where fuel oil consumption is not available this is estimated by extrapolating from existing data for similar vessels (i.e. vessels of similar size).

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

99

### Explanation

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Use of sold products is impossible to track, and there is no generally accepted methodology yet for calculating associated emissions. For the purpose of reporting we consider those emissions not relevant; however, we are aware of the potentially positive impact that the use of our products has (see also C4.5). Besides, this category is determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Franchises

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

## Investments

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Explanation

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Explanation**

Determined as not relevant in assessment by Cement Sustainability Initiative within the World Business Council for Sustainable Development (sector-specific Scope 3 guidance).

C6.7

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**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

Yes

C6.7a

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**(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.**

**Row 1**

**Emissions from biologically sequestered carbon (metric tons CO2)**

1975963

**Comment**

C6.10

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**(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**

0.0033

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

47025887

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

14375000000

**Scope 2 figure used**

Location-based

**% change from previous year**

3.78

**Direction of change**

Decreased

**Reason for change**

Emission reduction activities (please note that the data reported in C4.3 only include projects requiring capex; on top of this there are always efforts to source low-carbon materials and fuels, improve energy efficiency, optimize previously reported projects, etc.).

**C-CE6.11**

**(C-CE6.11) State your organization's Scope 1 and Scope 2 emissions intensities related to cement production activities.**

	Gross Scope 1 emissions intensity, metric tons CO2e per metric ton	Net Scope 1 emissions intensity, metric tons CO2e per metric ton	Scope 2, location-based emissions intensity, metric tons CO2e per metric ton
Clinker	0.857	0.8	0.068
Cement equivalent	0.682	0.637	0.054
Cementitious products	0.674	0.63	0.054
Low-CO2 materials	0	0	0

**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 CO2e)
Americas	27392372
Asia, Australasia, Middle East and Africa	3589416
Europe <i>This includes all European operations not reported in individual countries</i>	2288307
United Kingdom of Great Britain and Northern Ireland	1409622
Spain	3056293
Poland	1433685
Germany	1182956
Philippines	3049725

**C7.3**

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

By business division

By activity

**C7.3a**

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

Business division	Scope 1 emissions (metric ton CO2e)
CEMEX LatAm Holdings, S.A. ('CLH')	3793196
CEMEX Holdings Philippines, Inc. ('CHP')	3049725
Rest of CEMEX	36559455

**C7.3c**

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

Activity	Scope 1 emissions (metric tons CO2e)
Cement	43026228
Aggregates	195881
Concrete and asphalt	180267

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	43026228	40048801	
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

## C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Americas	2377864	2520134	5240642	1696174
Germany	230882	217251	261028	0
United Kingdom of Great Britain and Northern Ireland	43973	43973	274865	189886
Philippines	139342	139342	496053	0
Other, please specify (Rest of World)	831450	819570	1945843	0

## C7.6

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

By business division

By activity

### C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
CEMEX LatAm Holdings, S.A. ('CLH')	54801	47293
CEMEX Holdings Philippines, Inc. ('CHP')	139342	139342
Rest of CEMEX	3429368	3553635

### 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)
Cement	3402956	3519715
Aggregates	159339	159339
Concrete and asphalt	61216	61216

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	3402956	3519715	
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.9**

**(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?**

Increased

**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	34978	Decreased	0.08	Although the % of energy consumed coming from renewable sources has no significant variation between 2017 and 2018 (26%), as the electricity consumption increased due to an increase in production, we have a decreased in absolute CO2e. To avoid double accounting acquisitions are excluded in these calculations (as they are reported in line "acquisitions"). Calculation (in %): Variation year over year (34,978 tons of emissions) divided by total Emissions scope 1+2 in 2017 (46.48 million tons of emissions) * 100 (%)
Other emissions reduction activities	176119	Decreased	0.4	Emissions reduction calculation includes the ongoing projects implemented along 2017 and impacting in reductions in 2018 emissions (and not fully implemented in 2017) + implemented projects in 2018 savings (real amounts from the implementation real date). Project included are AF increase, energy efficiency, clinker factor initiatives. Calculation (in %): variation year over year (176,119 tons of emissions) divided by total Emissions scope 1+2 in 2017 (46.48 million tons of emissions)
Divestment		<Not Applicable>		
Acquisitions	1441357	Increased	3.1	Acquisition of new Caribbean Cement Operations (Trinidad&Tobago, Jamaica, Barbados) in 2016. 2018 is the first reporting year. Calculation (in %): Variation year over year (1,441,357 tons of emissions of the new operations in 2018) divided by total emissions scope 1+scope 2 in 2017 (46.48 million tons of emissions) * 100 (%)
Mergers		<Not Applicable>		
Change in output	332182	Increased	0.7	Higher cement production (but less clinker production, so clinker inventory consumption) increasing scope 1+2. Additionally, higher concrete and aggregates production affecting also scopes 1+2. To avoid double accounting acquisitions are excluded in the calculations (as they are reported in line "acquisitions"). Calculation (in %): variation year over year (524,016 tons of emissions) divided by Total emissions scope 1+2 in 2017 (46.48 million tons of emissions) * 100%
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

**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 30% but less than or equal to 35%

## 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	No
Consumption of purchased or acquired steam	No
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)	5912245	51908201	57820446
Consumption of purchased or acquired electricity	<Not Applicable>	1952220	5808927	7761147
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	7864465	57717128	65581593

## C-CE8.2a

### (C-CE8.2a) Report your organization's energy consumption totals (excluding feedstocks) for cement production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	56410383
Consumption of purchased or acquired electricity	<Not Applicable>	7258351
Consumption of other purchased or acquired energy (heat, steam and/or cooling)	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	63668734

## 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	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

**C8.2c**

---

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

**Fuels (excluding feedstocks)**

Petroleum Coke

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

20519125

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

20519125

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Bituminous Coal

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

14195106

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

14195106

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Lignite Coal

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

127068

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

127068

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

3254081

**MWh fuel consumed for self-generation of electricity**

431

**MWh fuel consumed for self-generation of heat**

3253650

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

1771447

**MWh fuel consumed for self-generation of electricity**

6535

**MWh fuel consumed for self-generation of heat**

1764912

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Alternative Kiln Fuel (Wastes)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

15006569

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

15006569

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify (Gasoline and others)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

15619

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

15619

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 6

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

2931430

**MWh fuel consumed for self-generation of electricity**

---

550752

**MWh fuel consumed for self-generation of heat**

2380678

**MWh fuel consumed for self-generation of steam**

<Not Applicable>

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Comment**

---

**C-CE8.2c**

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**(C-CE8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel for cement production activities.**

**Fuels (excluding feedstocks)**

Petroleum Coke

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

20519125

**MWh fuel consumed at the kiln**

20519125

**MWh fuel consumed for the generation of heat that is not used in the kiln**

0

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Bituminous Coal

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

14195106

**MWh fuel consumed at the kiln**

14117394

**MWh fuel consumed for the generation of heat that is not used in the kiln**

77712

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Lignite Coal

---

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

127068

**MWh fuel consumed at the kiln**

127068

**MWh fuel consumed for the generation of heat that is not used in the kiln**

0

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

3254081

**MWh fuel consumed at the kiln**

3229601

**MWh fuel consumed for the generation of heat that is not used in the kiln**

24049

**MWh fuel consumed for the self-generation of electricity**

431

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

361384

**MWh fuel consumed at the kiln**

84050

**MWh fuel consumed for the generation of heat that is not used in the kiln**

270799

**MWh fuel consumed for the self-generation of electricity**

6535

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Alternative Kiln Fuel (Wastes)

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

15006569

---



**MWh fuel consumed at the kiln**

15006569

**MWh fuel consumed for the generation of heat that is not used in the kiln**

0

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Other, please specify (Gasoline and others)

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

15619

**MWh fuel consumed at the kiln**

0

**MWh fuel consumed for the generation of heat that is not used in the kiln**

15619

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 6

**Heating value**

LHV

**Total MWh fuel consumed for cement production activities**

2931430

**MWh fuel consumed at the kiln**

2330116

**MWh fuel consumed for the generation of heat that is not used in the kiln**

50562

**MWh fuel consumed for the self-generation of electricity**

550752

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

---

**C8.2d**

---

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

## Alternative Kiln Fuel (Wastes)

### Emission factor

52.3

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all alternative fuels in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on input from CSI member companies) or plant-specific factors from sampling and testing of fuels.

### Comment

## Bituminous Coal

### Emission factor

95.5

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all bituminous coals in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### Comment

## Diesel

### Emission factor

74.4

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all diesel used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### Comment

## Fuel Oil Number 6

### Emission factor

77.4

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all fuel oil number 6 used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### Comment

## Lignite Coal

### Emission factor

96.2

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all lignite used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### Comment

Please note that most of the lignite used in our kilns is provided as pulverized lignite that has lower CO2 emission factors than unprocessed lignite.

## Natural Gas

### Emission factor

56.1

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all natural gas used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### Comment

## Petroleum Coke

### Emission factor

92.8

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all petroleum coke used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values and data from CSI members) or plant-specific factors from sampling and testing of fuels.

### Comment

## Other

### Emission factor

64.4

### Unit

kg CO2 per GJ

### Emission factor source

Average emission factor for all fuels reported as 'gasoline and others' used in our cement kilns according to the WBCSD CSI protocol. Emission factors at plant level can be default factors (provided by the protocol, based on IPCC values) or plant-specific factors from sampling and testing of fuels.

### 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	469862	426125	52029	21305
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

## C-CE8.2e

**(C-CE8.2e) Provide details on the electricity and heat your organization has generated and consumed for cement production activities.**

	Total gross generation (MWh) inside the cement sector boundary	Generation that is consumed (MWh) inside the cement sector boundary
Electricity	469862	426125
Heat	0	0
Steam	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**

Power Purchase Agreement (PPA) with energy attribute certificates

**Low-carbon technology type**

Wind

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

North America

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

8036

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

Wind power projects in two of our US plants. All these facilities are hosted but not controlled or operated by the company. Energy attributes certificates are generated

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

**Low-carbon technology type**

Wind

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

North America

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

754035

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

PPAs with wind power plants in Mexico (EURUS, Ventika I and II)

---

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

**Low-carbon technology type**

Wind

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

Latin America

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

131612

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0.1848

**Comment**

PPA with a wind farm in Dominican Republic; mainly wind generation, but when there was no wind power generation, fuel oil was used (67% of wind power generation). This contract was terminated in Nov2018

---

**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**

Latin America

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

2236

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

Solar PV plant in our cement operation in San Pedro, Dominican Republic. All these facilities are hosted but not controlled or operated by the company.

---

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

**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**

114527

**Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

0

**Comment**

New PPA signed with ENGIE in force from August 2018 for UK Operations. We expect to consume 100% renewable electricity in over 320 of our sites in the UK in 2019. Through our extended and revamped contract with ENGIE, all of the electricity supplied to these sites will come from 100% renewable energy sources, including wind energy. All supplies are REGO backed (Renewable Energy Guarantees of Origin) and each site gets an ENGIE statement confirming this. The reported energy here is just related to the new contract (100% Renewables). The mix of the previous contract was 34% renewable + 13% Nuclear (total figures reported in C7.5)

---

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

---

**Low-carbon technology type**

Hydropower

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

Latin America

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

125465

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

0

**Comment**

PPA with hydro generation to provide 100% renewable energy to our operations in Panamá

---

**Basis for applying a low-carbon emission factor**

Power Purchase Agreement (PPA) without energy attribute certificates

**Low-carbon technology type**

Hydropower

Biomass (including biogas)

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

Latin America

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

68248

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

0

**Comment**

PPA to supply Hydro power to Dominican Republic. This MWh reported are just related to scope 2 emissions (PPA), but we have also self-generation from other hydro facilities reported in scope 1. Additionally, we have also a PPA to supply green energy coming from the biomass sources (bagasse)

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## C9. Additional metrics

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### C9.1

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

**Description**

Waste

**Metric value**

13.2

**Metric numerator**

Waste-derived consump. Mln t from other industries

**Metric denominator (intensity metric only)**

Does not apply

**% change from previous year**

5.6

**Direction of change**

Increased

**Please explain**

Consumption of waste-derived fuels from other industries in million tons. Monitoring "waste" or sub-products consumption from other industries, like Alternative Fuels and additions to cement (fly ash or GBFS) - We set a new target in 2018 for 2030

---

**Description**

Energy usage

**Metric value**

26

**Metric numerator**

Power consump. of renewable energy in cement (MWh)

**Metric denominator (intensity metric only)**

Total Power consumption in cement (MWh)

**% change from previous year**

0.5

**Direction of change**

Increased

**Please explain**

Monitoring the consumption coming from renewable sources, regardless of the origin (self-generation or external sources). We also set a new target in 2018 for 2030

---

**Description**

Land use

**Metric value**

65

**Metric numerator**

BAP and 3rd certification

**Metric denominator (intensity metric only)**

Total number of active quarries needing a plan

**% change from previous year**

**Direction of change**

<Not Applicable>

**Please explain**

Metric value is a percentage. Change do not apply as this is a new metric in 2018; as we were about to finish our roadmap to implement a BAP (Biodiversity Action Plan) in quarries, we extended the scope of our goal to all quarries not-overlapped with high biodiversity value areas, to implement a 3rd party certification including any conservation action (or educational) with Wildlife Habitat Council (WHC). We set a target for 2030

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**(C-CE9.6) Disclose your organization's low-carbon investments for cement production activities.****Investment start date**

January 1 2018

**Investment end date**

December 31 2018

**Investment area**

R&amp;D

**Technology area**

Other, please specify (Aggregate number for all technologies involving various of the listed ones (CCU, CCS, low carbon products, raw materials composition...))

*Aggregate number for all technologies involving various of the listed ones (CCU, CCS, low carbon products, raw materials composition...)*

**Investment maturity**

Applied research and development

**Investment figure**

38000000

**Low-carbon investment percentage**

21 - 40%

**Please explain**

Investments in research and development have been held stable over the last couple of years. Around 35-40% of all expenses are for projects that are primarily driven by environmental considerations, and the vast majority of those are directly related to climate change. The percentage is calculated as follows: Total investment in R&D related to climate change divided by Total investment in R&D + Rest of non-low-carbon in R&D

**Investment start date**

January 1 2018

**Investment end date**

December 31 2018

**Investment area**

Property, plant and equipment

**Technology area**

Fuel switching

**Investment maturity**

Large scale commercial deployment

**Investment figure**

4009000

**Low-carbon investment percentage**

0 - 20%

**Please explain**

Please see our answer to question C4.3b for further details. The percentage is calculated as follows: Total investment in AF (low-carbon) divided by Total investment in AF + Rest of non-low-carbon in property, plant and equipment (these non-low-carbon investments include mainly Safety improvement in equipment, structural works (reinforcement and new silos), environmental improvements (new dust collectors...not directly related to low-carbon technologies))

**Investment start date**

January 1 2018

**Investment end date**

December 31 2018



**Investment area**

Property, plant and equipment

**Technology area**

Low clinker cement

**Investment maturity**

Large scale commercial deployment

**Investment figure**

69000

**Low-carbon investment percentage**

0 - 20%

**Please explain**

Please see our answer to question C4.3b for further details. The percentage is calculated as follows: Total investment in clinker factor improvement (low-carbon) divided by (Total investment in clinker factor improvement + Rest of non-low-carbon in property, plant and equipment (these non-low-carbon investments include mainly Safety improvement in equipment, structural works (reinforcement and new silos), environmental improvements (new dust collectors...not directly related to low-carbon technologies)))

**Investment start date**

January 1 2018

**Investment end date**

December 31 2018

**Investment area**

Property, plant and equipment

**Technology area**

Other, please specify (Electrical energy efficiency)

*Electrical energy efficiency***Investment maturity**

Large scale commercial deployment

**Investment figure**

150000

**Low-carbon investment percentage**

0 - 20%

**Please explain**

Please see our answer to question C4.3b for further details. The percentage is calculated as follows: Total investment in electrical energy efficiency (low-carbon) divided by (Total investment in electrical efficiency + Rest of non-low-carbon in property, plant and equipment (these non-low-carbon investments include mainly Safety improvement in equipment, structural works (reinforcement and new silos), environmental improvements (new dust collectors...not directly related to low-carbon technologies)))

**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	Third-party verification or assurance process in place

## C10.1a

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**(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**

Verification Statement.pdf

**Page/ section reference**

All (1-3)

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

99

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**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**

Verification Statement.pdf

**Page/ section reference**

All (1-3)

**Relevant standard**

ISAE3000

**Proportion of reported emissions verified (%)**

94

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## C10.1b

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**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

**Scope**

Scope 3- at least one applicable category

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

Verification Statement.pdf

**Page/section reference**

All (1-3), part. 1 (please note that the CSI Cement CO2 and Energy Protocol also includes emissions from purchased clinker, not only scopes 1 and 2)

**Relevant standard**

ISAE3000

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**C10.2**

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

No, but we are actively considering verifying within the next two years

**C11. Carbon pricing**

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**C11.1**

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**(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**

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

- California CaT
- Colombia carbon tax
- EU ETS
- Latvia carbon tax
- Mexico carbon tax
- Poland carbon tax

**C11.1b**

---

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

**California CaT**

**% of Scope 1 emissions covered by the ETS**

4.39

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**Allowances allocated**

**Allowances purchased**

0

**Verified emissions in metric tons CO2e**

1905206

**Details of ownership**

Facilities we own and operate

**Comment**

Please note that information on allocation is confidential as it allows to calculate clinker production in our facilities.

**EU ETS**

**% of Scope 1 emissions covered by the ETS**

21.2

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**Allowances allocated**

9960484

**Allowances purchased**

0

**Verified emissions in metric tons CO2e**

9201287

**Details of ownership**

Facilities we own and operate

**Comment**

**C11.1c**

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

**Colombia carbon tax**

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**% of emissions covered by tax**

0

**Total cost of tax paid**

13954

**Comment**

The figure shown here are the net taxes after compensation projects (see C11.2) (offset mechanism), but the cost of the offsets projects is not included. The tax is for all liquid and gases fuels consumed in the operations, but other fossil fuels (petcoke, coal...) are not taxed

**Latvia carbon tax**

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**% of emissions covered by tax**

0

**Total cost of tax paid**

726

**Comment**

**Mexico carbon tax**

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**% of emissions covered by tax**

10.64

**Total cost of tax paid**

1160000

**Comment**

Tax on all fossil fuels (but for natural gas). It is calculated as CO2e related to fossil fuels to calculate the % covered by the tax over scope 1+scope 2 emissions

**Poland carbon tax**

**Period start date**

January 1 2018

**Period end date**

December 31 2018

**% of emissions covered by tax**

2.75

**Total cost of tax paid**

100531

**Comment**

## C11.1d

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

EMISSIONS REDUCTION STRATEGY: We are developing a "CO2 Reduction Roadmap" plan in a kiln by kiln / site by site cement operation. There is a designated leader in each Region from Operations and another leader from the Strategic planning side. This effort is led globally by the Director of Sustainability in coordination with the VP of Operations and Technology. There is a dedicated resource to consolidate all the information at global level.

This plan aims to identify, evaluate from the technical point of view and evaluate the economical feasibility of each and every initiative listed in each site. According to this economical feasibility, the initiatives are classified in short, middle and long term execution. The roll-out in each country started with a kick-off workshop, led by Global Ops and Tech (GO&T) and Corporate Sustainability, where the goal is presented together with the available global solutions. The Workshop is comprised of local members from Operations (production, quality and maintenance), Sustainability, Procurement, Sales and Planning.

The EU plan was completed in Feb2019 (124 initiatives identified), the USA, Mexico and SCAC roadmaps are being developed now (to be finished in Aug 2019), and Philippines and Egypt (planned for Dec 2019). The initiatives include improvements to energy efficiency, switch to alternative fuels (biomass) or natural gas, the use of clinker substitutes and decarbonated raw materials (local availability). CEMEX global is also actively participating in the development of CCUS tech. as a potential long-term solution, together with open constant dialogue with policy makers.

CARBON ALLOWANCES: The strategy, mainly in the EU and California, is to keep the surplus of allowances to be used in the future (no trading is made), in order to minimize the financial impact caused by changes in regulations.

OFFSETS PROJECTS: In addition to the optimization of emissions in regulated installations, CEMEX seeks registration of emission reduction projects that go beyond business as usual and achieve CO2 mitigation at reasonable costs. A particularly good example is the offsetting of all CO2 emissions from our truck fleet in Colombia by investing into eligible reforestation measures in that country.

MONITORING: In addition to the mandatory monitoring, reporting, and verification required by the EU ETS, all cement plants track their CO2 emissions using the CSI protocol (see also Q12). All monitoring activities are subject to internal control and third-party verification in a yearly basis. SCOPE 2 EMISSIONS: There is a specific department in charge of energy supplies at corporate level, and also a responsible at Regional Level to ensure all contracts and self generation are including low-carbon generation as part of the decision making process when investing or contracting power supply.

## C11.2

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

Yes

## C11.2a

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**(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.**

**Credit origination or credit purchase**

Credit origination

**Project type**

Forests

**Project identification**

CEMEX Colombia earned in 2017, and continue the project in 2018, the Sello Verde de Verdad (True Green Label) certification for the neutralization of greenhouse gas emissions linked to transport activities. This makes CEMEX the first company in the country with carbon neutral certification on its entire vehicle fleet. Sello Verde de Verdad certification guarantees that the 1,000 vehicles that comprise CEMEX Colombia's total fleet are carbon-neutral thanks to offsets from the CO2CERO® forestry project. Through this project, CEMEX is committed to plant and maintain approximately 480,000 trees in Orinoquia, a post-conflict zone and one of Colombia's six natural regions. With more than 400 hectares from which the emissions offset will be achieved, this forestry project will not only capture around 120,000 tons of CO<sub>2</sub>, but also protect the region's native forests. It is voluntary but credits can be used for compliance (mitigation of the total carbon tax)

**Verified to which standard**

Other, please specify (Other, please specify (ICONTEC))

**Number of credits (metric tonnes CO<sub>2</sub>e)**

62391

**Number of credits (metric tonnes CO<sub>2</sub>e): Risk adjusted volume**

62391

**Credits cancelled**

Yes

**Purpose, e.g. compliance**

Voluntary Offsetting

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**C11.3**

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

Yes

**C11.3a**

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

**Objective for implementing an internal carbon price**

- Navigate GHG regulations
- Change internal behavior
- Drive energy efficiency
- Drive low-carbon investment
- Stress test investments
- Identify and seize low-carbon opportunities

**GHG Scope**

Scope 1

**Application**

The carbon price is integrated into our mid-term business planning process to better understand the impacts of carbon pricing on our business, to evaluate the impact of a potential regulation (risk) and to evaluate investments and acquisitions. In addition to this global price, local prices (for operations subject to carbon taxes or emissions trading) are also used. Example of Internal Carbon Price: As previously mentioned (C2.3a), we are deploying the "CO2 Roadmap" in all our cement operations, to identify at kiln/plant levels all the initiatives to be implemented, regardless of a carbon regulation in place. All identified investments (short, middle and long term) are analyzed considering the CO2 cost. Additionally, a sensitivity analysis is performed for different CO2 prices: 20 - 25 - 30 - 35 -40 USD/CO2 t to assess the robustness of the investment.

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

30

**Variance of price(s) used**

In the global application we currently apply a fix price of 30 USD but we are also including prices variance to analyze the robustness of the decision (range from 20 - 40 USD/ton in 5 USD intervals). Specifically for the projects in EU and California (carbon floor), the analysts' prices middle and long term forecasts are also taken into account. The analysts' expectations are updated in a quarterly basis. For those countries with a carbon tax equivalent to a lower CO2 price (i.e. Colombia 5 USD/t), this lower price is also included in the sensibility analysis, to evaluate the "baseline" scenario

**Type of internal carbon price**

Shadow price

**Impact & implication**

The internal price on carbon allows CEMEX to: identify low-cost reduction opportunities as well as investment projects that are subject to increased risks under a scenario of external carbon pricing // raise awareness among top and middle management for CEMEX' potential exposure to external carbon pricing (financial impact of the risk) // drive a culture of constantly reducing our carbon footprint regardless of local regulation. Carbon prices based on external mechanisms (taxes, emissions trading) allow us to better evaluate the profitability of projects and strategies. Example of the implications: all Mexico AF projects, even considering that the process emissions are not yet regulated, are evaluated considering a CO2 cost. This is giving us the total impact of an upcoming regulation through an ETS.

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**C12. Engagement**

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**C12.1**

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

- Yes, our suppliers
- Yes, our customers

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**C12.1a**

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

**Type of engagement**

Information collection (understanding supplier behavior)



### Details of engagement

Collect climate change and carbon information at least annually from suppliers

### % of suppliers by number

12

### % total procurement spend (direct and indirect)

44

### % Scope 3 emissions as reported in C6.5

30

### Rationale for the coverage of your engagement

We continue to develop a strong relationship with our supplier network. Since 2010, our Supplier Sustainability Program has made an extensive commitment to sustainability across our value chain, communicating and promoting responsible practices. As part of this global program, a third-party evaluator performs this assessment based on ISO 26000, covering Social, Environmental, Health & Safety (H&S), Business Ethics, Stakeholder Relationships, and Financial Performance standards. Climate related issues are evaluated as part of this assessment to our suppliers. As part of our Sustainability 2030 Ambitions, we have decided to refine our former supplier assessment focus and our new plan is to assess at least 80% of the critical suppliers spend under our company's global procurement scope. By critical we refer to those business partners who can have significant impact on our three core businesses (cement, ready-mix concrete, and aggregates). Specifically, this involves those who could affect the continuity of our operations, involve environmental risks, and/or contribute the highest spend. At year end we have evaluated 44% of the total procurement spend.

### Impact of engagement, including measures of success

AFNOR, the specialized consultancy firm we have partnered for the Supplier Sustainability Program, prepares a consolidated report, including findings and conclusions from the assessment and identified opportunity areas, proposing an action plan to close gaps. This evaluation is periodically updated, and suppliers are expected to continuously improve their score (if the company is equal or above the average of their industry -average provided by AFNOR, it needs to be evaluated every two years; otherwise the supplier will be invited to be evaluated again the next year). This grade is integrated into the supplier's scorecard to track and reward suppliers that demonstrate advanced sustainability practices. Every year, we recognize our best-performing suppliers of the Program. For 2018, we acknowledged the following companies for their outstanding performance and high level of engagement with their sustainability practices: Enel Fortuna S.A. (Panama), Maquinaria y Tractores Ltda (MATRA/CAT, Costa Rica) and Kao Chemicals GmbH (Germany). Process: identification of critical supplier; invitation to be evaluated; signing up of the supplier into a platform where they answer a questionnaire focused in the 4 main topics that CEMEX address: Social, Environmental, Suppliers and Policies. Answers need to have documentation that proves current progress in the self-assessment. AFNOR review the answers and back-up provided to elaborate report and recommendations. Main impact of the strategy: suppliers have recognized CEMEX's sustainability priority areas, understanding their importance and topics. As companies are provided with a recommendations plan to improve, when being evaluated in a next round, the expected result tends to be higher than it was. After CEMEX implemented this Program some suppliers started looking for some opportunities where they could be more efficient and sustainable. Example: raw material freight supplier in Mexico's central area with a Diesel truck fleet started testing some routes using CNG (Compressed Natural Gas) trucks to evaluate the energy efficiency, autonomy, climate impact and related costs. He is planning to buy some CNG trucks this year to use them in some of our raw material freight routes. CNG trucks are more efficient and emit less pollution directly than gasoline or oil trucks when combusted, helping to mitigate GHG emissions.

### Comment

Since 2010, we have been rolling out CEMEX Supplier Sustainability Program, an effort that extends our commitment to sustainable practices and policies to our business partners through an evaluation executed by a specialized independent firm, including criteria such as Health & Safety, Community Relations, Human Rights, Employee Development and Diversity, and Environmental Compliance, among others.

---

### Type of engagement

Engagement & incentivization (changing supplier behavior)

### Details of engagement

Run an engagement campaign to educate suppliers about climate change

Climate change performance is featured in supplier awards scheme

### % of suppliers by number

100

### % total procurement spend (direct and indirect)

100

### % Scope 3 emissions as reported in C6.5

80

### Rationale for the coverage of your engagement

Our Supplier of the Year program is open to all CEMEX suppliers and it aims to recognize suppliers for their contribution to our businesses by delivering profitable and innovative solutions and services to CEMEX and our customers. The program recognizes four categories: 1)HEALTH AND SAFETY: Strong commitment to safety with Zero4Life mindset, investing in and implementing a formal, measurable safety program; 2)SUSTAINABILITY: Supplier with demonstrated leadership and outstanding performance on Suppliers Evaluation Program.; 3)INNOVATION: Outstanding performance in the introduction of new products or services to meet CEMEX's current and future business needs. 4)EXCELLENCE: Provides competitive advantage by exceeding cost performance goals (technology, assistance, delivery, payment terms, etc.) and objectives for products or services. The suppliers with outstanding results in each category are recognized with a special award. The one with the highest score across all categories obtains the main prize as Supplier of the Year.

### Impact of engagement, including measures of success

During 2018, we established two editions of this program: Global Procurement and Procurement Croatia, demonstration of how successful this global initiative has been. We recognized suppliers for their outstanding results in several categories: Health and Safety, Sustainability, Applied Innovation, Customer Focus, and The Supplier of the Year Award—which is granted to a supplier that excels and achieves outstanding performance in more than at least one of the previous four categories. In Global Procurement 2018 Edition, Kao Chemicals (Japan/Germany) was awarded as Supplier of the Year in the Sustainability topic. For the evaluation of the Sustainability category, Climate Change impacts are a key metric.

### Comment

At CEMEX, we recognize that our performance is dependent on our ability to partner with suppliers that share our passion for excellence. Fostering innovation alongside our suppliers is fundamental. It is a win-win process that promotes continuous improvement for our supply chain, benefiting both our company and our suppliers.

---

### Type of engagement

Innovation & collaboration (changing markets)

### Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

### % of suppliers by number

100

### % total procurement spend (direct and indirect)

100

### % Scope 3 emissions as reported in C6.5

80

### Rationale for the coverage of your engagement

We are constantly evolving in order to become more flexible in our operations, more creative in our commercial offerings, more sustainable in our use of resources, more efficient in our capital allocation, and more innovative in conducting our global business. We believe that fostering innovation alongside our suppliers is fundamental: a win-win process that promotes continuous improvement for our supply chain, benefiting both CEMEX and our suppliers. Our "INTEGRATE Your Ideas" Innovation Program encourages suppliers to share their disruptive ideas to continuously improve our products, processes, and services and this includes the possibility of proposing disruptive ideas to mitigate the supply chain CO2 footprint. Moreover, some of the most relevant benefits of this invitation to innovate together with our business partners are: are > Strengthen collaboration, > Promote innovation as a win-win process, > Generate new thinking processes, > Improve supply chain practices, > Contribute to cost-reduction strategies, > Replicate winning ideas across CEMEX, > Promote the supplier's brand name throughout CEMEX operations, > Provide value for their clients, > Enhance the quality and image of their company, among others.

### Impact of engagement, including measures of success

Through the Global Edition of INTEGRATE Your Ideas Innovation Program, suppliers can share with CEMEX one or several transforming ideas. Derived from the 2018 edition of the program, three global suppliers were recognized for their creative ideas that reflected process, product or service efficiencies: 1) Volvo (Sweden)- Idea: Competence development of machine operators with simulators; 2) Klüber Lubrication (Germany) - Idea: First hydro lubricant for gears; 3) Refratechnik (Germany)- Idea: Counteract knowledge loss – special training on site

### Comment

All CEMEX suppliers are invited to participate in the INTEGRATE Your Ideas Innovation Program

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## C12.1b

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

**Type of engagement**

Collaboration & innovation

**Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

**% of customers by number**

1

**% Scope 3 emissions as reported in C6.5**

0

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

Development of a certification for sustainable building projects that is simpler than traditional approaches (such as LEED or BREEAM) and is very heavy on energy efficiency (which in turn is the key parameter driving GHG emissions from the building over the full life cycle). The 'Ecooperating for Buildings' certification particularly targets clients in emerging economies that for a number of reasons shy away from traditional green building certifications (e.g. cost and complexity). CEMEX has selected this market segment because - buildings built today will be in operation (and thus impact the carbon balance of the corresponding countries) for a couple of decades, - a simple certification coming from a well-known local company significantly lowers the hurdle for a certification and therefore represents a significant incentive to embrace principles of energy efficient design and construction. With the help of this certification CEMEX speeds up the implementation of low-energy (and therefore low-carbon) buildings in emerging economies. In addition, Ecooperating for Buildings paves the way for more sophisticated certifications in which CEMEX also supports its clients. Thanks to 'Ecooperating for Buildings' certification and the 'Ecooperating' initiative where we already had strategic partners, a new business Consortium was created to build the first Net Zero Energy Building in Latin America, being CEMEX part of this Consortium.

**Impact of engagement, including measures of success**

At the end of 2018 CEMEX had completed 11 certification projects (Ecooperating for Buildings and LEED) with a total floor space of approximately 400'000 m<sup>2</sup>, and has ongoing 2 more projects aiming certification (Net Zero Energy Building and LEED). While we have not made exact calculations we estimate that this represents annual CO<sub>2</sub> savings in the range of 3'000 t. Since the implementation of 'Ecooperating for Buildings' certification, and after running our campaign promoting the certification with marketing materials that explained what was considered for each certification, there has been increased interest in customers for improving the energy efficiency performance in buildings, for example in the Sorteio Tec Housing projects; each project aimed to achieve better energy efficiency than the rest, to achieve a higher rank in this certification (not only 'Ecooperating' but also 'Ecooperating Plus', with higher climate change requirements than the first level).

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**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**

1

**% Scope 3 emissions as reported in C6.5**

0

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

When our customers succeed, we succeed. Accordingly, our core strategic goal is to become the most customer-oriented company in our industry—serving as our clients' best option. Led by Global Research & Development (R&D) in Switzerland, our team of experts works in close collaboration with our customers to offer them unique, integrated, cost-effective solutions that fulfill their specific performance requirements, including a growing portfolio of value-added solutions. As the only global building materials company with our own concrete admixtures business, CEMEX is able to design and develop novel, tailor-made concrete technologies with our proprietary chemicals. Moreover, our experts in fields such as geology, chemistry, materials science, and various other engineering disciplines work alongside behavioral scientists, cultural anthropologists, and commercial strategists to anticipate and understand society's trends to create innovative, sustainable construction solutions that satisfy our customers' current and future needs, while truly challenging the current state of the art. Among other benefits, our superior concrete solutions help improve land use, increase water and energy efficiency, mitigate noise pollution, and lower buildings' carbon footprint.

**Impact of engagement, including measures of success**

Increasingly, our customers play an integral part in our innovation process. Many of our products and construction systems are developed through a co-creation process in which an R&D team of experts and customers work symbiotically to achieve a building solution. For example, in 2018, after full-scale experimentation at the Polytechnic University of Turin, we finalized the technology for

a concrete façade that is able to reduce the temperature of currents traversing it by up to 8°C. Similarly, we collaborated with Pich Architects to launch our climate concrete, designed to achieve zero net energy consumption at the future Wellness Hub in Monterrey, Mexico—the first application of its kind in Latin America.

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**Type of engagement**

Collaboration & innovation

**Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

**% of customers by number**

1

**% Scope 3 emissions as reported in C6.5**

0

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

Following a visit to our Global R&D Center in Switzerland, our customer decided that he would go beyond conventional building materials and utilize innovative concrete technology to build the family house of his dreams. His objective was to minimize, if not eliminate, conventional steel reinforcement while achieving high thermal efficiency.

**Impact of engagement, including measures of success**

Using our Resilia ultra-high strength and hyper ductile fiber-reinforced concrete, the outcome was the first building in the UK where steel reinforcement was reduced by 75%, embodying a 39% reduction of CO2 in the concrete structure or the equivalent of 120 tCO2. Our Insularis concrete technology was also used to achieve high thermal insulation, reducing the structure's thermal bridges and its overall energy consumption by 17%. In addition to these unique and innovative solutions, this collaborative project also underscores the types of issues that our R&D is addressing—from buildings' energy efficiency, comfort, and novel, more efficient construction systems to their CO2 footprint.

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## C12.3

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**(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
- Other

## C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (EU ETS)	Support	Support principle of market mechanisms; oppose interference in the market in Phase 3 of the EU ETS. Engage in discussion of post 2020 policy and Phase 4 (EU Commission proposals for 2020-2030). In addition ensure continued Carbon Leakage Support principle of market mechanisms; and ensure continued Carbon Leakage Status for Cement Industry. Details of engagement: Direct dialogue with EU Commission officials including in DG CLIMA and DG GROW, EU Parliamentarians and Permanent Representation of several EU Member States including UK, Poland, Croatia, Latvia and Spain. Participate in consultations.	Focus on carbon leakage and competitiveness of EU industry. Maintain carbon leakage status and avoid introduction of a cross-sectoral correction factor. Update benchmarks based on real data, Ensure innovation fund supports CCS and CCU in a wide range of relevant sectors.
Other, please specify (US legislation, particularly California)	Support	Support principle of market mechanisms; ensure fair burden sharing, particularly a level playing field in trade-exposed sectors. Compensation for increased power prices in trade-exposed sectors. Assessment of GHG emissions over the full life cycle. Acting to build climate resilience and reduce building emissions with concrete construction. Details of engagement: Direct dialogue with state and federal officials.	Complement existing output-based benchmarking for allocation of free allowances by a border carbon adjustment mechanism that minimizes leakage; compensation for increased power prices from auctioning allowances. Adoption of life-cycle analysis (LCA) to determine GHG impact of buildings and pavements, based on latest scientific findings (e.g. Concrete Sustainability Hub at the MIT).
Other, please specify (CCS-related legislation)	Support	Support legislation that enables the development and deployment of Carbon Capture and Storage (CCS) as a potentially crucial technology to limit GHG emissions in the long run.	Policy support and financing for RD&D into CCS. Clear and pragmatic rules for deployment of CCS. Stable political and financial framework to enable timely development.
Other, please specify (US Water Resources Development Act WRDA)	Support	Support principle of adapting to extreme climate related effects by building to resilient construction standards, which are those that allow a structure to resist hazards brought on by a major storm or disaster and continue to perform its primary function after such an event	Resilient construction principles infused into policy of WRDA and all federally funded public infrastructure and housing programs.
Other, please specify (Mexican ETS)	Support	Support principle of market mechanisms; avoid locking in teething problems due to precipitated implementation of the ETS.	Learn from the EU ETS: take sufficient time to monitor installations and thoroughly analyze results before proceeding to the implementation of the ETS, including allocation.

**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**

CEMBUREAU

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Support principle of market mechanisms; oppose interference in the market in Phase 3 of the EU ETS Encourage discussion of post 2020 policy and Phase 4. In addition ensure continued Carbon Leakage Status for Cement Industry.

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

Yes; via regular meetings of key TA Task Forces

**Trade association**

Coalition for Sustainable Cement Manufacturing and Environment (CSCME)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Support principle of market mechanisms; ensure fair burden sharing, particularly a level playing field in trade-exposed sectors

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

Active participation in CSCME work, including meetings with third parties.

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**Trade association**

California Large Energy Consumers Association (CLECA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Compensation for increased power prices in trade-exposed sectors, e.g. via output-based benchmarking for indirect power-related emissions.

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

Active participation in CLECA work, including meetings with third parties.

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**Trade association**

California Nevada Cement Association (CNCA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Use of life cycle analysis of GHG emissions associated with different pavement design options. With a price of carbon now in the California market, life cycle GHG emissions can be directly incorporated into a life cycle cost model for making pavement investment decisions.

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

Active participation in CNCA work, including meetings with third parties.

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**Trade association**

Portland Cement Association (PCA)

**Is your position on climate change consistent with theirs?**

Unknown

**Please explain the trade association's position**

PCA is currently assessing the implications of current and potential proposals to regulate the cement industry under existing statutory authorities or new legislative authority.

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

Actively engaged in this initiative.

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**Trade association**

Cámara Nacional de Cemento México (CANACEM)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Support principle of market mechanisms to design the new ETS that is being developed. Association wants to help Mexico to cover the NDC committed

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

CEMEX is participating as a key player in the revision of the new ETS design

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**Trade association**

Federación Interamericana de Cemento (FICEM)

**Is your position on climate change consistent with theirs?**

Consistent

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### **Please explain the trade association's position**

Close collaboration in the design of carbon mechanism in all countries where we have operations, to align our objectives with the NDC of each country

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

Participating in all meetings as key players

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## C12.3e

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### **(C12.3e) Provide details of the other engagement activities that you undertake.**

The most important of our other engagement activities are the following:

- CEMEX has signed the Paris Pledge for Action, by which we commit our full support to the Paris Agreement;
- In 2015, CEMEX has joined the Carbon Pricing Leadership Coalition (CPLC), a World Bank initiative that unites business, governments, and civil society in an effort to promote pricing emissions of GHG; we have shown particular leadership and commitment by accepting the CPLC's invitation to co-chair one of its working groups;
- CEMEX is one of the founding members of the Cement Sustainability Initiative (CSI) ; this sector project within the World Business Council for Sustainable Development (WBCSD) is also working on a number of climate-related topics; the most important ones are:
  - The global Getting the Numbers Right (GNR) database that is based on a standardized monitoring protocol: this global database has provided accurate and reliable information about the cement sector's energy consumption and GHG emissions for almost a decade now;
  - In 2015 the CSI started the cement project within the Low-Carbon Technology Partnerships initiative (LCTPi) and has coordinated it ever since. CEMEX has taken a leading role in this project.

## C12.3f

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### **(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 consistency is ensured by integration, involvement, and clear, transparent communication.

Integration means that the development and update of both our carbon strategy and our communication messages are coordinated by the same function, the Corporate Sustainability Direction, and that the people involved are the same.

Involvement implies that important decisions are prepared by consulting the whole organization. For example, all our operations are routinely participating in the update of our climate change-related position papers.

We have a Public Affairs and Communication professional network of people who operates in our regions and participates in committees and working groups, as for example, Cembureau (EU), FICEM (SCAC) and CSCME (USA). These members, consulting the experts in each climate change related topic, gather the contents for our public policies proposal, aligned with the corporate strategy.

Clear, transparent communication includes e.g. the publication (both internal and external) of our position papers and our Integrated Report. In addition, the CO2 Coordination Group, made up of specialists and decision-makers at corporate, regional, and local levels, regularly convenes to exchange latest developments and discuss CEMEX' response, incorporating our public policy proposals to the strategy, that then is used to refine the strategic actions plans in climate change, that are communicated afterwards in our Integrated Report.

## C12.4

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**(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, incorporating the TCFD recommendations

**Status**

Complete

**Attach the document**

IntegratedReport2018.pdf

**Page/Section reference**

All our sustainability report is related to our climate position and actions, but here you are the summary of the most relevant pages: 23-24-27 (alignment with SDG) 25-26 (2030 commitment - NEW) 28-29 (mitigation actions summary) From 72-82 (Our Commitment to the Planet) From 51-56 (sustainable products and construction) From 57-67 (sustainable communities) From 68-70 (responsible suppliers)

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

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**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

CEMEX\_POSITION\_on\_Climate\_Change.pdf

**Page/Section reference**

Whole Document

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emission targets

**Comment**

We are currently updating our external position and developing several documents for communicating internal position

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**C14. Signoff**

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**C-FI**

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**(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**

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

	Job title	Corresponding job category
Row 1	Chief Executive Officer	Chief Executive Officer (CEO)

## Submit your response

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**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

**Please state the main reason why you are declining to respond to your Customers**

Prefer to work directly with customer, not through a third party

**Please confirm below**

I have read and accept the applicable Terms