

C0. Introduction

C0.1

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

Cementir Holding is a multinational Group with registered offices in the Netherlands operating in the building materials sector. With operations in **18 countries**, production capacity of over **13 million** tons between white and grey cement, Cementir sells around **10 million** tons of aggregates every year, **5 million** cubic meters of ready-mix concrete and it represent a reference point both in the construction and maintenance of infrastructures as well as in residential and commercial construction.

Cementir is the global white cement leader with **around 27% share of global trade**. With the Aalborg White ® brand, Cementir is the leader in China, the United States, Western Europe, Australia, Malaysia, Egypt.

Cementir Holding defined a clear and incremental pathway which will enable cement to be produced according to science-based criteria and recommendations. In particular, the Group defined a 10-year roadmap focused on the following pillars:

- the development of a new *low-carbon cement*, FUTURECEM™, an innovative, validated and patented technology which allows for more than 35% of the energy-intensive clinker in cement to be replaced by limestone and calcined clay. This combination of materials in FUTURECEM™ has resulted in a much more sustainable, high-grade cement with a carbon footprint up to 30% lower than regular Portland cement. From 2014-2020, together with research institutions and a range of stakeholders and customers from the construction industry, Cementir tested FUTURECEM™ at full-scale in infrastructure as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. On January 2021, Cementir started the distribution of FUTURECEM™;
- the replacement of clinker with alternative decarbonised mineral additives such as fly ash and slag;
- the replacement of fossil fuels with alternative fuels.

In the 10-year Roadmap, the Group planned the main investment needed until 2030, out of which 107 million declared in the Industrial Plan 2021-2023, approved by the Cementir Board of Director in February 2021. For additional details, please see section 10-YEAR ROADMAP in the 2020 Sustainability Report attached or available in the corporate website.

Finally, it should be pointed out that Cementir Holding is the world's leading producer of white cement and, as recognized by EU ETS, white cement is a specialty product that entails a higher energy consumption and therefore CO2 emissions than the production of grey cement. This is because of the different raw materials and production technology. In the 10-year roadmap, Cementir identified a clear and incremental pathway for CO2 reduction also for white cement. Cementir will achieve its reduction target lowering the emissions of both types of cement produced, white and grey.

Difference between white and grey cement

White and grey cement are two distinctly different products, with different applications and production methods. White cement is a specialty product mainly used for high performance applications, dry-mix products, mortars, special products and decorative purposes, while grey cement is used in heavy construction, such as in-situ or precast concrete.

Obtaining the right (white) colour is a crucial factor in the manufacturing of white cement and is a conditional clause in trade contracts. A reflection of at least 86% is generally required for the white cement to be competitive compared to the reflection of grey cement which is in the range of 30-40%. For this reason, the production of white cement entails a higher energy consumption than the production of grey clinker. This deals with the fact that high grade raw materials are needed to achieve the necessary chemical purities. In addition, differently from the grey cement production, it is necessary to rapidly cool the white cement clinker from 1200° C to 600° C in a few seconds, which requires quenching with cold water which reduces the possibility of preheating combustion air.

Based on these particularities in the manufacturing of white cement, separate benchmark in the EU ETS has been necessarily deployed. For grey cement, the EU has set a benchmark of 693 Kg CO2/ t clinker, while for white cement the benchmark is 987 kg CO2/ t clinker, 42% higher.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	Yes	3 years

C0.3

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

- Belgium
- China
- Denmark
- Egypt
- France
- Malaysia
- Norway
- Sweden
- Turkey
- United Kingdom of Great Britain and Northern Ireland
- United States of America

**C0.4**

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

- EUR

**C0.5**

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

- Financial control

**C-CE0.7**

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

- Limestone quarrying
- Clinker production
- Portland cement manufacturing
- Blended cement
- Alternative 'low CO2' cementitious materials production
- Aggregates production
- Concrete production

**C1. Governance**

**C1.1**

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

- Yes

**C1.1a**

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	The Group operates in several Countries, facing increasing regulations on emissions trading and multiple jurisdictions, management of climate-related items is therefore deal with as a relevant issue with a significant impact both in terms of economic value and in terms of operational criticism. Ultimate powers and responsibilities stay with the board of the Group parent company and of the other companies of the Group, consistent with the uniform approach and strategy set out at Group level. The Group CEO is vested by the Board of the Group Parent company with all relevant authority to implement it. He regularly reports to the Board, where the strategic direction of the Group is ultimately set, about its adherence and the overall performance. The CEO is the individual with direct responsibility for climate-related issues. The CEO is responsible for the implementation of the Sustainability Targets defined by the Group and the implementation of the investments related to the Targets. Example of a climate decision: • in March 2020 the CEO presented to the Board of Directors the 25 Sustainability Targets set by the Group (including among other, targets on Co2 emissions, alternative fuels, clinker ratio) and the 2019 Sustainability Report; • in June 2020, the CEO presented to the Board the evolution on the main Sustainability KPIs and related targets in the first half year of 2020. A specific section for the Non-financial indicators (with the indication of Co2 emissions, alternative fuels, clinker ratio, alterantive fuel produced by the Group) was included in the 2020 CONSOLIDATED HALF-YEAR REPORT • in February 2021, the CEO presented to the Board of Directors the 2021-2023 the update of the Industrial Plan. The BoD approved the 2021-2013 Industrial plan and confirmed the Group CO2 emissions targets by 2030 The CEO is quarterly informed about the evolution of the Sustainability KPIs (among other, emissions, alternative fuels, clinker ratio), about the evolution of the main risks and opportunities related to climate change. If needed, he is informed also more often. The KPIs have been deployed per single plant and per single year in the period 2020 - 2030.
Board-level committee	Due to increasing relevance of climate-related issues and sensibility of the Group, a specific Sustainability Committee has been established within the Board, dedicated to the Group's initiatives and engagement in this field and with responsibilities detailed in the related Charter. The Committee's purpose is: (i) to assist and advise the Board in its oversight of the Group's policies, programs and related risks however concerning sustainability matters; (ii) act under authority delegated by the Board with respect to setting out, monitoring, evaluating and reporting on policies and practices, management standards, strategy, performance and governance, relating to global and local sustainability matters, involving the Group; (iii) regularly interface with the Sustainability Department and the Group Management Team to respectively collect any required information and provide requested insights and advices and (iv) regular reporting to the Board. The committee meets at least quarterly

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<Not Applicable>	<p>The Board of Directors (BoD) is informed and deliberates on climate-related issues at least quarterly. The BoD set the overall strategy, approves the performance objectives and goals for the Group. For example: • in November 2019, the Board approved the target to reduce CO2 emissions per ton of cement produced of 30% by 2030; • in March 2020 the Board approved the 25 Sustainability Targets set by the Group (including among other, targets on emissions, alternative fuels, clinker ratio) and the 2019 Sustainability Report ; • in June 2020, the Board was informed about the evolution on the main Sustainability KPIs and related targets in the first half year of 2020. A specific section for the Non-financial indicators (with the indication of Co2 emissions, alternative fuels, clinker ratio, alternative fuel produced by the Group) was included in the 2020 CONSOLIDATED HALF-YEAR REPORT. • in November 2020, the Board Reviewed the Group Enterprise Risk Assessment. Moreover, the BoD defines the guidelines of the risk management system, so that the main risks concerning the whole Group are correctly identified and adequately measured, managed and monitored, determining, the level of compatibility of such risks with the management of the company in a manner consistent with its strategic objectives. The Risk Management system analyzes the risks of each Group company (and of the Group) and evaluates the related level of mitigation, through a uniform methodology. All kind of risks are covered by the ERM (strategic, financial, compliance and operational), consequently, also risks related sustainability, as CO2 emissions, alternative fuels availability and others are integrated in the model. A panel of specific risks related to the sustainability aspects is applied to all the Group companies. These analyses are linked with the Group Sustainability Strategy and a separate disclosure is provided to the Audit Committee and BoD • in February 2021, the Board of Directors examines preliminary consolidated results for 2020, approves the 2021-2023 Industrial Plan update and confirmed the Group CO2 emissions targets by 2030 .</p>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Sustainability committee	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Risk committee	<Not Applicable>	Assessing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Chief Internal Audit Officer)	<Not Applicable>	Assessing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other, please specify (The Head of Sustainability & External Relations in the N&B Region)	<Not Applicable>	Other, please specify (Contributes to develop a common sustainability approach at Group level)	<Not Applicable>	Quarterly
Other, please specify (Group Management Team (GMT), composed of the Group COO, CFO, HR and Head of Regions, is in charge for the implementation of the Group Industrial Plan, and ensures the alignment between sustainability efforts and business objectives. )	<Not Applicable>	Managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other, please specify (The Sustainability Working Group (SWG), composed by the COO, Group Chief Sales, Group Chief Internal Audit Office and the Head of Nordic & Baltic Region.)	<Not Applicable>	Other, please specify (It monitors the execution of the recommendations provided by the Sustainability Committee to the GMT. it must ensure that all activities undertaken by each Region and BU are consistent with the Group overall climate change strategy.)	<Not Applicable>	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).**

1) Group CEO. Climate issues have a strategic relevance because they could affect the long term business of the Group, for this reason the Group CEO (the ultimate responsible for operational management of the company) is appointed with climate-related strategic responsibilities and must be aware and informed constantly about them. The Group CEO is the executive director of the Board, empowered both for ordinary and extraordinary business. He is one of the members of the Sustainability Committee. The CEO is quarterly informed about the evolution of the Sustainability KPIs (among other, emissions, alternative fuels, clinker ratio), about the evolution of the main risks and opportunities related to climate change. If needed, he is informed more often.

'2) Sustainability Committee -Includes among its members the Group CEO and the top management. The main task of the Committee is to develop a Group Sustainability Strategy and in the pursuit of said tasks has the following main responsibilities: 1. Review and monitor key public policy trends, issues, regulatory matters and other concerns that may affect the Group's business, strategies, operations, performance or reputation, and its engagement in any pertinent public policy process, insofar as sustainability matters are concerned. 2. Prepare, review and discuss the Group's sustainability initiatives and engagement. 3. Assist in the Board's oversight of risks relating to sustainability matters overseen by the Committee. 4. Prepare, review, assess and make recommendations to the Board and to other Group bodies, such as GMT (Group Management Team), regarding any sustainable development policy, including overall strategy or specific guidelines, management standards, key performance indicators of the Group relating to sustainability-related issues; 5. Prepare, review, assess and make recommendations to the Board and to other Group bodies, such as GMT, as to strategic and review the annual sustainability report of the Group. 6. Prepare, review, assess, define and make recommendations to the Board and to other Group bodies, such as Remuneration Committee, climate-related short term incentives for management at Group, regional and BU level. 7. . Prepare, review, assess and make recommendations to the Board and to other Group bodies, such as GMT, as to strategic and review the annual sustainability report of the Group. 8. Prepare, review, assess and make recommendations to the Board and to other Group bodies, such as GMT and Investment Committee, as to a sustainable investment scheme. 9. Annually assess and regularly provide reports of its actions to the Board and make recommendations to the Board and to other Group bodies, such as GMT, as it considers appropriate. 10. Review and reassess the adequacy of the Charter of the Sustainability Committee on an annual basis and recommend to the Board any improvements to the Charter that the Committee considers necessary or appropriate.

'3) Risk Committee (Audit Committee) - Examine the Group Non Financial Dislosing prior to its yearly approval by the Board. The committee assists the Board: a) expressing opinions on specific aspects relating to the identification of the main risks for the company; b) reviewing the periodic reports of the internal audit function; c) requesting the internal audit function to carry out reviews of specific operational areas; d) reporting to the Board of Directors on the activity carried out, as well as on the adequacy of the internal control and risk management system

'4) Group Chief Internal Audit Officer - Is one of the members of the Sustainability Committee. He reports directly to the Group CEO and has been assigned also the responsibility of Operational and Sustainability matters. The Internal Audit is responsible for the periodic monitoring of the activities implemented in reference to the Group's sustainability strategy and its targets. The internal audit is also in charge for the identification, evaluation and monitoring of all Group risks (ERM). All kind of risks are covered by the ERM (strategic, financial, compliance and operational), consequently, also risks related sustainability, as CO2 emissions, alternative fuels availability and others are integrated in the model. the Audit and Risk Committee is updated quarterly a about the evolution of the main risks.

'5) The Sustainability Working Group (SWG), composed by the COO, Group Chief Sales, Group Chief Internal Audit Office and the Group Industrial Officer, is the operational arm of the sustainability committee. On a monthly basis, the SWG monitors the execution of the recommendations provided by the Sustainability Committee to the GMT. Moreover, it must ensure that all activities undertaken by each Region and BU are consistent with the Group overall climate change strategy Each region and BU must report and agree with the SWG any activities undertaken at local level with business association, policy makers or local communities.

## C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	The monetary incentive plan adopted by Cementir is based on a short-term incentive (STI) system. The system maintains the proper ratio between its components and adequate incentives to achieve continuously improving performance levels within the sustainable value creation structure. The STI is based on the Group's and/or subsidiaries' financial and non financial targets and includes objectives based on indicators linked to company performance and to managerial roles actually held within the Company. The STI is a tool with which Cementir promotes also the fulfillment of various climate change-related objectives (especially CO2 emissions, alternative fuels and alternative raw materials). Managers from all organisational levels participate and share in this incentive system, so that fulfilling defined goals results in the receipt of annual monetary incentives.

## C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Other C-Suite Officer	Monetary reward	Emissions reduction target	The Head of Regions and Managing Directors of BU receive a monetary incentive, if their Regions or BU accomplished targets related to CO2 emissions reductions, clinker/cement substitution, use of alternative fuels. Cementir set 2030 targets. Each target has been deployed per single plant and years. The interim targets have been included in the 2021-2023 Industrial plan approved by the BoD in February 2021.
Other C-Suite Officer	Monetary reward	Emissions reduction target	The Group Chief Technical Officer receive a monetary incentive, if the Group accomplish the targets related to CO2 emissions reductions, clinker/cement substitution, use of alternative fuels. Cementir set 2030 targets. Each target has been deployed per single plant and year. The interim targets have been included in the 2021-2023 Industrial plan approved by the BoD in February 2021.
Other, please specify (Plant Managers)	Monetary reward	Emissions reduction target	The Plant Managers receive a monetary incentives, if their plant accomplish the targets related to CO2 emissions reductions, clinker/cement substitution, use of alternative fuels. Cementir set 2030 targets. Each target has been deployed per single plant and year. The interim targets have been included in the 2021-2023 Industrial plan approved by the BoD in February 2021.
Chief Procurement Officer (CPO)	Monetary reward	Other (please specify) (Material supplies concerning alternative fuel and alternative raw materials)	The Chief Procurement Officer had specific incentives related to the alternative fuels and alternative raw materials in order to allow the CO2 emissions reductions targets
Other C-Suite Officer	Monetary reward	Company performance against a climate-related sustainability index	The Chief Internal Audit Officers receives a monetary reward based on the Cementir performance against CDP questionnaire. The Chief Internal Audit Officer is member of the Sustainability Committee. He reports directly to the Group CEO and has been assigned also the responsibility of Operational and Sustainability matters. The Internal Audit is responsible for the periodic monitoring of the activities implemented in reference to the Group's sustainability strategy and its targets. The internal audit is also in charge for the identification, evaluation and monitoring of all Group risks (ERM). All kind of risks are covered by the ERM (strategic, financial, compliance and operational), consequently, also risks related sustainability, as CO2 emissions, alternative fuels availability and others are integrated in the model. The Chief Internal Audit Officer updates the Audit and Risk Committee about the evolution of the main risks, quarterly.
Other, please specify (Group Sustainability Reporting Manager)	Monetary reward	Company performance against a climate-related sustainability index	The Group sustainability Reporting Manager is responsible for the preparation and publication of Cementir Group Non-Financial Report and the other main sustainability disclosures as CDP (Carbon Disclosure Project) and ESG (Environment, Social and Governance) Indexes. He supports the quarterly elaboration and monitoring of the sustainability-related data (KPIs) and he is also responsible for carrying out operational Audit and special projects at Group level and periodically monitoring initiatives with reference to the Group sustainability strategy. He receives a monetary reward based on the Cementir performance against CDP questionnaire
Procurement manager	Monetary reward	Other (please specify) (Material supplies concerning alternative fuel and alternative raw materials)	The Procurement Managers had specific incentives related to the alternative fuels and alternative raw materials in order to allow the CO2 emissions reductions targets
Chief Operating Officer (COO)	Monetary reward	Emissions reduction target	The monetary incentive plan of the Group COO is linked to the definition of the detailed roadmap (actions and investments) to accomplish the reduction targets committed for the 2030 and to accomplish the targets related to 2050 (net zero emission)

**C2. Risks and opportunities**

**C2.1**

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

Yes

**C2.1a**

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

	From (years)	To (years)	Comment
Short-term	0	3	We consider as short-term a time horizon between 0 and 3 years, since it is the period covered by our regular industrial planning. Even if Cementir Climate Change Strategy has a medium-term horizon, intermediate short-term goals have been defined. Cementir plans to accomplish 25 Sustainability Targets within 2030, but short-term targets dated 2021, 2022 and 2023 have been defined and included in the 2021-2023 Industrial Plan. Among other, Cementir established short-term target for CO2 emissions, alternative fuels, clinker ratio, green investments. Cementir plans to invest around Euro 107 million in sustainability over the next three years (2021-2023). Major investments will be made in Denmark for the construction of a new calcination plant aimed at the production of Futurecem, the installation of wind turbines with an installed capacity of 8.4 MW, district heating allowing an extension of district heating supply from 36 thousand to over 50 thousand households, and other energy efficiency projects. Significant investments are also planned in the Belgian plant's kiln to increase alternative fuels use from the current 40% to 80%, as well as investments for the use of natural gas and biogas in some of the Group's plants.
Medium-term	3	10	The medium term is a time horizon beyond the industrial plan but addressed by Cementir Climate Change Strategy. For example Cementir set up 25 Sustainability Targets to be implemented within 2030. Within 2030, Cementir plans: to reduce scope 1 and 2 GHG emissions 25% per ton of cementitious from a 2020 base year, with emissions below 500 kg per ton of grey cement; to increase the alternative fuels to the 77% of the total fuels used for the production of grey cement; to lower clinker content of grey cement to 68%. For these targets, interim goals dated 2025 have been defined. Specific Roadmaps have been established to accomplish the 2030 targets. Cementir is also supporting Denmark in delivering a 70% reduction in greenhouse gases by 2030. In December 2019, the Danish Prime Minister appointed the Managing Director of Aalborg Portland (Danish legal entity owned by Cementir) as head of the climate partnership for energy-intensive industry, the technical group that will provide to the Danish government the technical forecast of all potential CO2 reductions achievable by energy intensive industry in Denmark and will define the prerequisites (policy, research, innovation, subsidies, etc.) for such reductions.
Long-term	10	30	The long-term is over 10 years. Cutting the CO2 emissions in the medium-term is a priority of Cementir Group, but we also believe that we cannot achieve the carbon neutrality acting alone. For this reason, concerning the long-term horizon, Cementir is involved in strengthening the global partnership for sustainable development. Cementir actively participates in global and national industry policy discussions on issues related to Climate Change, Sustainable Infrastructure, Innovation & Digital Transformation, Operational Efficiency, Health & Safety, Circular Economy, Alternative Fuels, and Waste Management Frameworks, among others. Cementir is a member of the Global Cement and Concrete Association (GCCA). Cementir is also member of the European Cement Research Academy (ECRA). ECRA's most important research projects are related to the carbon capture and storage (CCS) technology. Through the CEMBUREAU (European Cement Association), Cementir is directly involved in dedicated working groups that are coming up with proposals for revising the EU Emissions Trading System and sustainable construction legislation. In 2019, the Group became member of the Carbon Disclosure Project (CDP) in order to improve the Group's accountability for climate change and water management. In April 2021, the Group joined an international consortium led by New Energy Coalition and the University of Groningen for the development of a Carbon Capture and Storage technology. The objective of this project is to investigate the potential of the carbon capture and storage technology to reduce CO2 industrial emissions and to allow local communities to share the benefits. From April 1st, 2021, over €13 million of European funds and private investments will enable scaling up technological innovations and conducting socio-economic research. A mobile demo plant will be constructed that will capture up to 100 Kg CO2/h at cement production and will be tested in our Danish plant of Aalborg. The deployment of breakthrough technology will be a corner stone in the path versus the production of 'net zero emissions' cement.

**C2.1b**

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

Annually, Cementir Holding updates the risk assessment model for each subsidiary, according to the Enterprise Risk Management framework based on the CoSO framework (Committee of Sponsoring Organizations of the Treadway Commission, Enterprise Risk Management).

The Integrated Risk Management process takes a top-down and risk-based approach, starting from the definition of Cementir Holding's Strategic Plan which cover different matters: sustainability, climate change, environment, compliance, operational, financial, strategic planning, health and safety and reputational risks. According to the process, the risks are identified, assessed, managed and monitored taking into account operations, risk profiles and risk management systems of each business unit, to create a wholly integrated risk management process. Every year, Cementir performs and updates these assessments on the whole Group, involving all subsidiaries and the Corporate Level. The top risks results are submitted to the Top Management and Corporate Bodies (Audit Committee and Board of Directors) in November of each calendar year.

In addition, on quarterly basis a monitoring processes are performed on Group's top risks for monitoring the implementation status of actions plan agreed.

Risks are assessed in terms of **likelihood** and **impact** and their combination generates the risk scoring.

Risk scoring is determined on the basis of the results of the multiplication between **likelihood** and **impact**.

A scale from 1 to 25 is obtained and the risks that have a risk score of 12 or higher are considered to have a potential **substantive financial impact** that could undermine the business or part of the business.

In the assessments **we consider both direct operations and supply chain**.

The risk **impact** value is assessed based on a 5-level rating scale: 1-negligible, 2-Low, 3-significant, 4-high, 5- critical.

Impacts are defined based on the evaluation of the following parameters:

**Economical:** a specific risk or opportunity is considered as having a substantive impact, if the resulting deviation from the planned EBITDA 2020 (Group EBITDA:€ 244.500.000) as follow:

- Impacts below 0,5% of operating EBITDA are considered as Negligible (< 1.222.500 €)
- Impacts between 0,5%-5% of operating EBITDA are considered as Low (€1.222.500- € 12.225.000)
- Impacts between 5-15% of operating EBITDA are considered as Significant (€ 12.225.000 - €36.675.000)
- Impacts between 15-30% of operating EBITDA are considered as High (€ €36.675.000- € 73.350.100)
- Impacts above 30% of operating EBITDA are considered as Critical (€ > 73.350.100)

**Operational:** significant delay on the lead time, that cannot be managed through an internal reorganization of business activities, are evaluated as substantive for the Company;

**Reputational:** Cementir evaluates as substantive the risk of a negative judgment on an international scale by media or high loss of confidence by stakeholders.

In order to assess the overall magnitude of the risk, impact is combined with the likelihood, that is apportioned over a 5-level rating scale: 1- rare, 2- unlikely, 3- moderate, 4- likely, 5- more than likely.

Cementir defines the **likelihood** as the probability of occurrence of climate related events in the next 2 years:

- Rare: <10%: that the risk event will occur during the first two years from the time of evaluation;
- Unlikely (10 % - 35 %) that the risk event will occur during the first two years from the time of evaluation;
- Moderate: It is likely (35 % - 65 %) that the risk event will occur during the first two years from the time of evaluation;
- Likely: It is highly likely (65 % - 90 %) that the risk event will occur during the first two years from the time of evaluation;
- More than likely: It is almost certain (> 90 %) that the risk event will occur during the first two years from the time of evaluation;

Once defined Impact and likelihood, risk scoring is determined on the basis of the results of the multiplication between likelihood and impact.

The risk scoring as a scale from 1 (impact below 0,5% of operating EBITDA and likelihood rare, < 10%) to 25 (Impacts above 30% of operating EBITDA and likelihood More than likely, >90%)

All risks that have a risk score of 12 or higher are considered to have a potential **substantive financial impact** that could undermine the business or part of the business.

At the end of the year, Cementir consolidates at Group level the results of all the ERM models performed in each subsidiary.

Specifically, Cementir evaluated as **substantive Group risks**:

- risks for which the weighted average on the individual companies was found to be High (risk score of 12 or higher);
- risks that have been assessed as high on one or more companies/regions which together contribute to at least 30% of the Group's total EBITDA
- risks evaluated as High by Top Management Corporate level, regardless the risk scoring resulting from the ERM.

## C2.2

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## (C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

### Value chain stage(s) covered

Direct operations  
Upstream  
Downstream

### Risk management process

Integrated into multi-disciplinary company-wide risk management process

### Frequency of assessment

More than once a year

### Time horizon(s) covered

Short-term  
Medium-term  
Long-term

### Description of process

The Risk Management is carried out by applying the same methodology in all the Group companies and compliant with the reference framework: Enterprise Risk Management - Integrated Framework. A panel of specific risks related to the sustainability aspects is applied to all the Group companies. These analyses are linked with the Group Sustainability Strategy and a separate disclosure is provided, quarterly to the Audit Committee. The Sustainability risk are related to four key areas: - Transition risks. We assess the exposure of Cementir to the risks related to the transition to a low-carbon economy through an analysis of emissions and thermal energy intensity and exposure to downstream regulation. Situation: tightening emission regulations could translate into increased compliance costs for the Group. In European countries, there is a risk posed by governmental decisions on emissions and fluctuations in the price of CO<sub>2</sub> emission quotas (set by the EU ETS), especially in the medium- and long-term period. These annually permitted emission quotas are also being discussed in other countries where the Group operates, like China, where a system comparable to the EU will be introduced in 2021 for the power generation sector. Concerning the EU ETS, according to the possible scenario, Cementir will have free CO<sub>2</sub> allowances until the end of 2021. Starting 2022, allowances for around 600,000 tons of CO<sub>2</sub> of yearly emissions will be purchased. As described in C2.3a (see risk 1), the potential financial impact for Cementir could be around 30 million € of additional yearly cost starting from 2022. The estimation assumes a CO<sub>2</sub> price of 50 EUR. Task: The Group must constantly monitor its emissions and compliance with regulations and planning the availability of CO<sub>2</sub> emissions quotas. The Group must also define a 10-year roadmap to reduce its emissions to reduce the risk related to emission regulations. Action: In the Group Risk Register, the tool used by the Group to identify and monitor each risk, the risk "Lack of enough Co<sub>2</sub> quota" is listed. This risk is evaluated during each session of risk process with each plant of the Group. Likelihood, impact and risk scoring, as described in C.2.1b, are evaluated for this risk in each plant. This risk could have a substantive financial impact for the group. To manage the risk, each plant defined a 10-year roadmap with the actions and investment to be implemented to reduce emissions. In parallel, Cementir engaged with SBTi to assess the alignment of its CO<sub>2</sub> targets against a well below 2°C scenario. Results: In July 2021, the Science-Based Targets initiative (SBTi) validated Cementir's targets to reduce its emissions. Cementir will reduce reduce scope 1 and 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. In the short term, specific investments have been included in the 2021-2023 industrial plan. For example, concerning the Belgium plant, we have planned the upgrade of the kiln in order to increase alternative fuels usage to 80% of total fuel usage. - In the medium term, within 2030, we will reduce CO<sub>2</sub> emissions per ton of cementitious materials by emissions 25% from a 2020 base year. The target will be achieved through greater use of alternative fuels (77% of the total fuel usage to produce grey cement by 2030) and renewable resources, reduction of thermal consumption and the clinker ratio of cements. - For the long term, Cementir is testing breakthrough technology. In April 2021, the Group joined an international consortium to investigate the potential of the carbon capture and storage technology s. From April 1st, 2021, over €13 million of European funds and private investments will enable scaling up technological innovations and conducting socio-economic research. A mobile demo plant will be constructed to be tested in our Danish plant of Aalborg. - Physical risks. The Cementir exposure to physical and water stress risk. Situation: In cement production, a good quality of freshwater is not material, but sufficient quantities of water are needed for cooling the equipment, conditioning the kiln gases and de-dusting and cleaning. So, water availability is important in our risk assessment as we need water in our production process. The risk is that some of our plant located in water stressed area (i.e. Belgium or Egypt) could be affected by shortages in water and for this reason stoppages in production could occur. Task: Cementir must perform a water availability assessment to manage any potential issue in water supply Action: In the Group Risk Register, the tool used by the Group to identify and monitor each risk, the risk "water stress" is listed. This risk is evaluated during each session of risk process with each plant of the Group. Likelihood, impact and risk scoring, as described in C.2.1b, are evaluated for this risk in each plant. In 2020, a comprehensive water risk assessment was carried out for all cement plant using the WRI Aqueduct. A high water stressed area is defined as having a baseline water stress greater than 40%. The baseline water stress measures the current level of water demanded in a local area against the average available blue water. In 2020, 31 % of our total water withdrawal was sourced from plants located in water stressed areas. Result: Each plant defined specific target reduction for the water consumption. Within 2030, the Group will reduce the water consumption per ton of cement by 20%, comparing 2019. In the water stressed area the goal is to reduce the consumption by 25%. Moreover, in 2021, for the first time, Cementir submitted CDP water questionnaire. Reporting through CDP will help Cementir to improve the current practices of water management. - Transition opportunities. Cementir progresses in shifting towards a low-carbon economy, through alternative materials and fuel and low-carbon products and technologies. For example, opportunities for new revenue streams from low-carbon products. Cementir developed FUTURECEM™ a low carbon cement with the potential to cut of about 30% the CO<sub>2</sub> emitted during the production. From 2014-2019, Cementir tested FUTURECEM™ in a wide range of actual ready-mix concrete applications. In March 2020, Bureau Veritas certified the compliance of FUTURECEM™ with the requirements in cement standard (EN 197-1:2011). On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 Futurecem™ volumes sold are expected to reach around 51% of total volumes sold in Europe and 60% of grey cement volumes. - Climate governance and strategy. Cementir strategy and governance frameworks including emissions reduction targets and alignment of governance and remuneration structures with low-carbon objectives.

## C2.2a



**(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	The regulation related to CO2 emissions currently impacts the Cementir Group plant located in Europe (Belgium and Denmark) in terms of limited free CO2 allowances. European plant are regulated by The European Union Emissions Trading System (EU ETS). As described in C2.3a (see risk 1), according to the possible scenario developed by the Group, Cementir will have free CO2 allowances until the end of 2021. Starting 2022, allowances for around 600,000 tons of CO2 of yearly emissions will be purchased. The potential financial impact for Cementir could be around 30 million € of additional yearly cost starting from 2022. The estimation assumes a CO2 price of 50 EUR. Climate-related issues and the linked CO2 emissions regulations are affecting also the suppliers landscape, especially in Europe. See C2.3a (risk 2), for details. For example, the fly ash is a by-product from burning pulverized coal in electric power generating plants. In Europe, pressure on reducing coal fired plants progressively reduces fly ash availability and increases the related prices. Fly ash from coal-fired power plants can be used effectively as a component of raw kiln feed for the manufacture of cement clinker. In our danish plant located in Aalborg, the fly ash with high alkali is used for the production of the clinker and the related fly ash cement. The utilization of fly ash, as alternative raw materials, can lower the clinker/cement ratio. As clinker production is the most energy-intensive and CO2-emitting step of the cement-making process, reductions in the clinker/cement ratio (through use of clinker substitutes) reduce energy use and CO2 emissions. One possible way to reduce energy and CO2 emissions in cement production is to blend cements with increased proportions of alternative (non-clinker) feedstocks, such as fly ash from coal-fired power generation. So fly ash are also a lever used to mitigate CO2 impacts, but, in Europe, CO2 emissions regulations are progressively reducing their availability.
Emerging regulation	Relevant, always included	For example, the risk that emission trading system, like EU ETS, will be implemented in non-European country. This is a risk for non-European Group companies since, in some countries an emission trading system will probably start. Of the areas where the Cementir Group is operating, EU is the only major region with a cap and trade system. The other plant that are producing cement are located in China, Malesya, Turkey, Egypt and US. - China has announced to implement a CO2 trading system. The National ETS in China will be activated from the mid-year of 2021 and the power industry is the first industry to ETS and involved 2225 power companies. The next step is to expand the pilot companies from power to multiple industries including Power, Petrol-chemical, Chemical, Building materials, Iron & Steel, Non-ferrous metals, Paper and Civil aviation industries. It's predicted that Cement and Non-ferrous metals could be covered in Y2023. In 2020, the performance of the AnQing plant (the only Cementir plant located in China) was better than European Benchmark for white cement. The Anqing plant is producing white cement. The plant emissions were 935 kg CO2/ton versus a benchmark of 957 kg CO2/ton clinker. Considering the performance of our Chinese plant, in the medium-short term, the implementation of a carbon emission trading system will not affect negatively Cementir. - Turkey is discussing the implementation of ETS or CO2 taxation system. Cementir Turkish plants have sent their first greenhouse observation and tracking plans to Turkish Ministry of Environmental starting from 2014. Very likely, in medium term, Turkey will establish a carbon pricing process, but as of July 2021 no additional information are available. - Regional systems in a few US states but not in Texas and Pennsylvania were the Group is operating - No immediate plans in Egypt and Malaysia
Technology	Relevant, always included	Cement manufacturing is an energy and CO2 intensive process. The deployment of breakthrough technology will be a corner stone in the path versus the production of 'net zero emissions' cement. Risks and opportunities associated with technological innovations that could reduce CO2 emissions and energy consumption are an integral part of our risk management process, because the players that better succeed on finding new technologies will have a competitive advantage. The Group is investing for reducing the CO2 emissions and for developing the new technologies needed to accomplish the goal of net-zero emissions. For example, Cementir developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can replace a significant quantity of clinker in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. On 1 January 2021, we began the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 FuturecemTM volumes sold are expected to reach around 51% of total volumes of grey and white cement sold in Europe and 60% of grey cement volumes. Moreover, in April 2021, the Group joined an in international consortium led by New Energy Coalition and the University of Groningen for the development of a Carbon Capture and Storage technology. The objective of this project is to investigate the potential of the carbon capture and storage technology to reduce CO2 industrial emissions and to allow local communities to share the benefits. From April 1st, 2021, over €13 million of European funds and private investments will enable scaling up technological innovations and conducting socio-economic research. A mobile demo plant will be constructed that will capture up to 100 Kg CO2/h at cement production and will be tested in our Danish plant of Aalborg.
Legal	Relevant, always included	Litigations and the related possible consequences are always analysed during the risk assessment activity. For example, the Cementir Group developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can replace a significant quantity of clinker in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. Cementir will reduce scope 1 and 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year and a pivotal role in CO2 reduction will be played by FUTURECEM™. In order to manage the legal risk, the Group patented this technology. Currently, there are no critical issues regarding this aspect.
Market	Relevant, always included	Since in some of the countries in which the company operates there is an increasing attention to embodied energy and CO2 in building materials, there is the risk of substitution of existing products (concrete) and services with lower emissions options. In North Europe (France, Belgium, Netherlands, Scandinavia), the main risk is the increase in wood usage for flats, hotels, bridges and other applications. Between 2018 and 2019, we perform a survey to explore and figure out the status of the green transition in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. The survey, confirmed the importance to develop and distribute low carbon solutions to reduce the risk of substitution with wood or similar alternative building materials. As mentioned in section technology of C2.2.a, Cementir developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). On 1 January 2021, we began the distribution of FUTURECEM™. In addition, in the last years, several governments, especially in North Europe, starting to promote the development of sustainable building materials and recognize the importance of label as Concrete Sustainability Council (CSC) certification in the procedures for the award of public works contracts. The CSC is a certification system for globally responsible sourcing. The CSC strives to generate a market pull for green concrete by promoting sustainable construction through their certified concrete. Concrete that is from a CSC certified cement plant is more sustainable because it meets the standards set for the following categories: reducing CO2 emission; fair business practices & compliance; enhancing biodiversity; excellence in occupational health & safety; moving towards circularity, using water in a responsible manner; and enhanced responsibility in the supply chain. For our customers located in specific European countries as the Netherlands and Belgium is becoming relevant to have supplier of cement certified as CSC in order to obtain public works contracts. In 2020, Cementir started the certification process for its Belgian plant. In January 2021, the Belgian cement plant of Cementir Group has received Silver certification from CSC.
Reputation	Relevant, always included	The cement and concrete business is characterized by a high impact in terms of emissions. For this reason, it is important that all the actions that the Group is undertaking in order to limit the impact on the environment and reduce the emission level, are well communicated to the stakeholders and that the stakeholders expectations regarding the Group are well analyzed. The risk of being perceived as a large carbon emitter could reduce our attractiveness to stakeholders such as customers, investors, and potential employees. An example can be the investigative reports published by The Guardian about the environmental impacts of concrete. The building materials industry without clear distinction between respective players was subject to a series of articles pointing to concrete's responsibility in climate change. Such campaigns could lead to a negative perception of our products by our final customers, thus influencing building material preferences. Link: <a href="https://www.theguardian.com/cities/series/guardian-concrete-week">https://www.theguardian.com/cities/series/guardian-concrete-week</a> Cementir is worldwide leader in the production of white cement. Due to the higher energy consumption needed for production of white clinker, compared to grey, the CO2 emission are certainly higher. A significant handicap versus the other cement player must be highlighted. The Group Sustainability Team engages regularly with relevant stakeholders to ensure sufficient transparency is provided on the environmental, social and economic responsibility of concrete, cement and aggregate companies' operations and their supply chains. For example, to improve the accountability for climate change, Cementir submitted the 2020 CDP Climate Change questionnaire and in 2021, Cementir will submit the CDP Climate Change questionnaire and, for the first time, the Water Security Questionnaire.
Acute physical	Relevant, always included	The risk of interruption of the operations due to natural events / disasters (such as floods or tropical hurricanes) or climate change is always included in the risk assessment and, consequently, analysed in all the Group companies. For example in Norway (where Cementir produces and sells concrete) climate condition, especially during the winter season, could affect the plant operations and the related sales. If the winter is very cold, construction project could be postponed or delayed. In such cases, the Customers postpone their purchases and as a consequence the sales of Cementir are postponed. The issue is managed through different actions. For example, Cementir arrange training to the customers about how to perform winter concrete casting (especially to the foreign companies that are performing construction project in Norway but that are not familiar with the weather). In addition, the ordinary maintenance of the plants are planned during the winter, when, as mentioned, due to climate condition, the sales are slower.
Chronic physical	Relevant, always included	In cement production, a good quality of freshwater is not material, but sufficient quantities of water are needed for cooling the equipment, conditioning the kiln gases and de-dusting and cleaning. So, water availability at a catchment level is important in our risk assessment as we need water in our cement production process. The risk is that some of our plant located in water stressed area (i.e. Belgium or Egypt) could be affected by shortages in water and for this reason stoppages in production could occur. Long-term shifts in climate patterns that may cause water scarcity must be monitored. For this reason, Cementir must perform a water availability assessment to manage any potential issue in water supply. In the Group Risk Register, the tool used by the Group to identify and monitor each risk, the risk "water stress" is listed. This risk is evaluated during each session of risk process with each plant of the Group. In 2020, a comprehensive water risk assessment was carried out for all cement plant using the WRI Aqueduct. A high water stressed area is defined as having a baseline water stress greater than 40%. The baseline water stress measures the current level of water demanded in a local area against the average available blue water. In 2020, 31 % of our total water withdrawal was sourced from plants located in water stressed areas. The group defined specific target reduction for the water consumption. Within 2030, the Group will reduce the water consumption per ton of cement by 20%, comparing 2019. In the water stressed area the goal is to reduce the consumption per ton of cement by 25%. Moreover, in 2021, for the first time, Cementir submitted CDP water questionnaire. Reporting through CDP will help Cementir to improve the current practices of water management.

**C2.3**

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

Yes

**C2.3a**

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

**Identifier**

Risk 1

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

Upstream

**Risk type & Primary climate-related risk driver**

Current regulation	Carbon pricing mechanisms
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**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Among the areas where Cementir operates, Europe is the only major region with a regulatory framework for CO2 quotes. The EU ETS is a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one. The EU ETS works on the 'cap and trade' principle. A cap is set on the total amount of certain greenhouse gases that can be emitted by the installations covered by the system. The cap is reduced over time so that total emissions fall. Within the cap, installations, as the cementir plants located in EU, buy or receive emissions allowances, which they can trade with one another as needed. The limit on the total number of allowances available ensures that they have a value. After each year, an installation must surrender enough allowances to cover fully its emissions, otherwise heavy fines are imposed. If an installation reduces its emissions, it can keep the spare allowances to cover its future needs or else sell them to another installation that is short of allowances. According to the possible scenario developed by the Group, Cementir will have free CO2 allowances until the end of 2021. Starting 2022, allowances for around 600,000 tons of CO2 of yearly emissions will be purchased. The potential financial impact for Cementir could be around 30 million € of additional yearly cost starting from 2022. The estimation assumes a CO2 price of 50 EUR

**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)**

30000000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact figure**

According to the possible scenario developed by the Group, Cementir will have free CO2 allowances until the end of 2021. Starting 2022, allowances for around 600,000 tons of CO2 of yearly emissions will be purchased. The potential financial impact for Cementir could be around 30 million € of additional yearly cost starting from 2022. The estimation assumes a CO2 price of 50 EUR. 30 million € is the 11.4% of 2020 Group EBITDA. In 2020, the Group EBITDA was 263.7 million €.

**Cost of response to risk**

107000000

**Description of response and explanation of cost calculation**

In order to support in the fight against climate change and support the transition to the phase 4 of the new European Trading System which will come into force in 2021 bringing more strict CO2 free credit allocation, Cementir Group has developed a 10 years roadmap which is focused on the following pillars: Reduction of clinker content to 68% for grey cement and 80% for white cement. In the production of cement, the majority of CO2 emissions occur when the raw materials (mainly limestone) calcinates into clinker in the kiln. Cementir will reduce the clinker content through: - The replacement of clinker with alternative decarbonised mineral additives such as fly ash and slag. - The development of a new low-carbon cement, FUTURECEM™, an innovative, validated and patented technology which allows for more than 35% of the energy-intensive clinker in cement to be replaced by limestone and calcined clay. Replacement of fossil fuels with alternative fuels The establishment of a natural gas line to the plant located in Denmark and the installation of multi-fuel main burners for the kilns. The switching to natural gas, a fossil fuel with emissions much lower than pet coke (estimated reduction of 20% of CO2), is a transitional solution and indispensable for Cementir's transition to net-zero emissions. Energy recovery. The Aalborg plant recovers heat from cement production to provide district heating to local inhabitants. The recovered thermal energy is used to heat the homes of about 36,000 families in the city of Aalborg. To guarantee the development of the Group's Climate Change Strategy and to achieve the Group's Sustainability Targets, in the 2021 - 2023 Industrial Plan we have planned an investment of 107 million € which will include, among other things: Upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80%. Construction of a new calcination plant aimed at the production of FUTURECEM™. Installation of two wind turbine generators (WTGs) in the Aalborg plant. The energy produced will be used by the plant. According to the estimates, 2 WTGs will help reduce CO2 emission by 25,000 tons /year. Expansion of district heating supply in Aalborg from the current 36,000 to over 50,000 households. For confidentiality we did not disclose the amount of each single investment, For the period 2024-2030, the Group planned additional investments, but these initiatives are still under investigation and we cannot provide the value

**Comment**

There are not other additional relevant information

**Identifier**

Risk 2

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

Direct operations

**Risk type & Primary climate-related risk driver**

Current regulation	Other, please specify (Increased cost of raw materials (fly ash))
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**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

&lt;Not Applicable&gt;

**Company-specific description**

Climate-related issues and the linked CO2 emissions regulations are affecting suppliers landscape, especially in Europe. For example, the fly ash is a by-product from burning pulverized coal in electric power generating plants. In Europe, pressure on reducing coal fired plants progressively reduces fly ash availability and increases the related prices. Fly ash from coal-fired power plants can be used effectively as a component of raw kiln feed for the manufacture of cement clinker. In the Aalborg plant, the fly ash with high alkali is used for the production of the clinker and the related fly ash cement. In addition, the utilization of fly ash as alternative raw materials can lower the clinker/cement ratio. As clinker production is the most energy-intensive and CO2-emitting step of the cement-making process, reductions in the clinker/cement ratio (through use of clinker substitutes) reduce energy use and process CO2 emissions. One possible way to reduce energy and process emissions in cement production is to blend cements with increased proportions of alternative (non-clinker) feedstocks, such as fly ash from coal-fired power generation. So fly ash are also a lever used to mitigate CO2 impacts.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Low

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

650000

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Explanation of financial impact figure**

In the short-medium term, in order to manage the issue, the Group is: securing the current supply of materials by long term agreement; scouting for new suppliers and partially replacing fly ash with similar materials available in the market. In the long term, the fly ash cement will be replaced by other new product as FUTURECEM™. The Cementir Group has developed FUTURECEM™, a patented technology, which relies on the synergy of limestone and calcinated clay. This technology enables the clinker reduction in cement and therefore the CO2 emissions. For the period 2021-2023, the group forecasts an average increase of the price of the fly ash of about 17 €/ton, while we assume the price of similar material available in the market fixed. According to the scenario analyzed, the increasing of the price could be from a minimum of 15 €/ton to a maximum of 19 €/ton. The price assumptions are based on the agreements in place with the suppliers. Applying an average increase of the price of the fly ash of about 17 €/ton to the quantity of fly ash and similar material planned in the 2021-2023 industrial plan we estimate 650.000 € of additional cost, yearly.

**Cost of response to risk**

24500000

**Description of response and explanation of cost calculation**

Cement production is a thermal energy intensive process. Limestone and clay are heated to approximately 1,450 degrees Celsius in rotary kiln to produce clinker, the semi-finished product. Then gypsum or other high-grade materials such as slag, fly ash or limestone are grinding together with the clinker to produce cement. CO2 is emitted as a by-product of clinker production. Cement manufacturing releases CO2 in the atmosphere both directly, when the calcium carbonate included in the limestone is heated and indirectly purchasing electricity for using the grinding mills. Hence, reducing the clinker content in cement (the clinker ratio) means reduction in Co2 emissions. Clinker content in the cement can be reduced by replacing it with alternative materials as fly ash. The fly ash is a by-product from burning pulverized coal in electric power generating plants. In Europe, pressure on reducing coal fired plants progressively reduces fly ash availability and increases the related prices. In the short-medium term, in order to manage the issue, the Group is: securing the current supply of materials by long term agreement; scouting for new suppliers and partially replacing fly ash with similar material available in the market. In the long term, the fly ash cement will be replaced by other new product as FUTURECEM™. Through FUTURECEM™ technology, the clinker in cement will be partially replaced by limestone and calcined lowering the clinker/cement ratio. For this reason, in the long term, the fly ash cement will be replaced by the combination of limestone and calcined clay feasible via FUTURECEM™ technology. On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. According to current estimates, by 2030 FUTURECEM™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe. In the industrial plan 21-23, the Group planned 24,5 million € for upgrading the facilities to allow production of FUTURECEM™. The cost is the sum of the projects needed for to the roll out of FUTURECEM™: new storage silo, online quality control on cement grinding and facilities for internal calcination of clay. The 80% of the investment is related to the equipments and 20% related the other activities needed, as engineering, construction works, electrical and mechanical activities.

**Comment**

There are not other additional relevant information

**Identifier**

Risk 3

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

Direct operations

## Risk type & Primary climate-related risk driver

Technology	Unsuccessful investment in new technologies
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### Primary potential financial impact

Increased capital expenditures

### Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

### Company-specific description

Cementir defined a 10-year roadmap to maximise the deployment of existing technologies and laying the groundwork for the breakthrough innovations that will lead to the production of 'net zero emissions' cement. In the 10 year Roadmap, the Group planned the main investment needed until 2030, out of which 107 million declared in the Industrial Plan 2021-2023, approved by the Cementir Board of Director in February 2021. In the 2021-2023 period, Cementir planned 45 million € for the replacement of the current High CO<sub>2</sub> fuels (i.e. petcoke of coal) to Low CO<sub>2</sub> fuels (alternative fuels as biomass, refuse derived fuel or natural gas) The major investments will be related to the upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80% and the utilization of natural gas in Aalborg. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO<sub>2</sub>), is a transitional solution for Cementir's path to net-zero emissions. Once completed, the investment will guarantee a CO<sub>2</sub> reduction of about 230,000 tons, annually with an annual potential saving in term of CO<sub>2</sub> quotas of 11.6 million € (232.000 ton multiplied a CO<sub>2</sub> price of 50 EUR). The risk is related to any troubles that could compromise the expected CO<sub>2</sub> reduction and the potential financial impact figures are related to the capital expenditure required for the mentioned investment. The capital expenditure is consistent with Cementir recent projects and assessments.

### Time horizon

Medium-term

### Likelihood

Unlikely

### Magnitude of impact

Medium

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

Yes, a single figure estimate

### Potential financial impact figure (currency)

45000000

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

<Not Applicable>

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

<Not Applicable>

### Explanation of financial impact figure

In the 2021-2023 period, Cementir planned 45 million € for the replacement of the current High CO<sub>2</sub> fuels (i.e. petcoke of coal) to Low CO<sub>2</sub> fuels (alternative fuels as biomass, refuse derived fuel or natural gas). The 60% of the investment is related to the equipments and 40% related the other activities needed, as engineering, construction works, electrical and mechanical activities. The major investments will be related to the upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80% and the utilization of natural gas in Aalborg. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO<sub>2</sub>), is a transitional solution for Cementir's path to net-zero emissions. Once completed, the investment will guarantee a CO<sub>2</sub> reduction of about 230,000 tons, annually with an annual potential saving in term of CO<sub>2</sub> quotas of 11.6 million € (232.000 ton multiplied a CO<sub>2</sub> price of 50 EUR). The risk is related to any troubles that could compromise the expected CO<sub>2</sub> reduction and the potential financial impact figures are related to the capital expenditure required for the mentioned investment. The capital expenditure is consistent with Cementir recent projects and assessments.

### Cost of response to risk

2025000

### Description of response and explanation of cost calculation

Cementir defined a 10-year roadmap to maximise the deployment of existing technologies and laying the groundwork for the breakthrough innovations that will lead to the production of 'net zero emissions' cement. In the 10 year Roadmap, the Group planned the main investment needed until 2030 for reducing scope 1 and 2 GHG emissions of 25% per ton of cementitious products by 2030 from a 2020 base year. In the 2021-2023 period, Cementir planned 45 million € for the replacement of the current High CO<sub>2</sub> fuels (i.e. petcoke of coal) to Low CO<sub>2</sub> fuels (alternative fuels as biomass, refuse derived fuel or natural gas). The major investments will be related to the upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80% and the utilization of natural gas in Aalborg. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO<sub>2</sub>), is a transitional solution for Cementir's path to net-zero emissions. Once completed, the investment will guarantee a CO<sub>2</sub> reduction of about 230,000 tons, annually with an annual potential saving in term of CO<sub>2</sub> quotas of 11.6 million € (232.000 ton multiplied a CO<sub>2</sub> price of 50 EUR). The risk is related to any troubles that could compromise the expected CO<sub>2</sub> reduction and the potential financial impact figures are related to the capital expenditure required for the mentioned investment. The capital expenditure is consistent with Cementir recent projects and assessments. Dedicated teams have been appointed to manage the projects and monitor the correct implementation of the various steps needed to proper implement the investments. As cost of response to risk, we reported the project management cost estimated for the projects. The cost related to Cementir employees involved in the design, planning, monitoring and management of this specific investments. Both projects are managed by a project manager, supported by the Group Technical offices and closely monitored by the Group Management Team (Group COO, Group CFO, Group Technical Officer and Group Controller). The project managers must periodically update the Group Management Team about the status of the investments. To estimate the cost, we assumed 5 person (5 FTE with an average management cost of 135.000 eur/yearly) dedicated for 3 year to the projects for a total amount of 2.025 million €. (5 \* 135.000\*3)

### Comment

There are not other additional relevant information

## C2.4

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

Yes

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

Opp1

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

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development of new products or services through R&amp;D and innovation

**Primary potential financial impact**

Reduced direct costs

**Company-specific description**

The Cementir Group developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can allow over than 40% clinker replacement in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. From 2014-2019, Cementir participated, together with researcher institutions and a range of stakeholders and customers from the construction industry, in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. In this project, FUTURECEM™ was tested at full-scale in construction parts for infrastructure (two bridges) as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. Those demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. Between 2018 and 2020, Cementir performed a survey to explore and figure out the status of the 'green transition' in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. The goal of the survey was to understand the dynamics of the green transition and the role that FUTURECEM™ technology could play in the future. In March 2020, Bureau Veritas certified the compliance of FutureCEM™ with the requirements in cement standard (EN 197-1:2011). On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of almost 1 million ton of FUTURECEM™. In the 2021-2023 period, the replacement of 1 million ton of the current grey portland cement produced by our plant with the production of 1 million ton of FUTURECEM could reduce our CO2 emission of about 193,000 ton. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 FutureCEM™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**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)**

9650000

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

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

**Explanation of financial impact figure**

On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. The potential financial impact reported is related to the reduced amount of CO2 emissions to be purchased in 2021-2023 period in EU ETS, thanks to the partial replacement of the current traditional grey portland cement produced by the danish plant of Aalborg with FUTURECEM™. In the 2021-2023 period, the replacement of 1 million ton of the current grey portland cement with the production of 1 million ton of FUTURECEM could reduce the CO2 emission of about 193,000 ton. Assuming a CO2 price of 50 EUR/ton, in the period 2021-2023, the potential benefit for Cementir could be 9.65 million € (193,000 x 50 = 9,650,000).

**Cost to realize opportunity**

24500000

**Strategy to realize opportunity and explanation of cost calculation**

The Group is investing for developing new technology for reducing the CO2 emissions. Cementir developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay. The combination of limestone and calcinated clay in FUTURECEM™ can allow over than 40% clinker replacement in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. From 2014-2019, Cementir participated, together with researcher institutions and a range of stakeholders and customers from the construction industry, in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. In this project, FUTURECEM™ was tested at full-scale in construction parts for infrastructure (two bridges) as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. Those demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. In March 2020, Bureau Veritas certified the compliance of FutureCEM™ with the requirements in cement standard (EN 197-1:2011). On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 FutureCEM™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe. In the industrial plan 21-23, the Group planned 24,5 million € for upgrading the facilities to allow production of FUTURECEM™. The cost is the sum of the projects needed for to the roll out of FUTURECEM™: new storage silo, online quality control on cement grinding, facilities for internal calcination of clay. The 80% of the investment is related to the equipments and 20% related to the other activities needed, as engineering, construction works, electrical and mechanical activities.

**Comment**

There are not other additional relevant information

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**Identifier**

Opp2

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

Upstream

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Other, please specify (Participation in renewable energy programs and adoption of energy-efficiency measures )

**Primary potential financial impact**

Increased revenues through access to new and emerging markets

**Company-specific description**

System for recovering heat from combustion gases used. Aalborg Portland (AP), the danish legal entity, has since 1990 delivered District Heating to the Municipality of Aalborg. In order to produce cement, raw materials such as limestone and sand must be burned at temperatures of up to 1500°C. Due to this high temperature process, the Aalborg Portland cement factory has enormous supplies of excess heat. One of the main sources of waste heat is the flue gas streams from the white kilns. The solution to this energy loss was to implement a heat recovery system, in which the flue gasses from the five white kilns of Aalborg plant are utilized in heat exchanger installations to transfer the thermal energy from the flue gas to Aalborg's district heating network. The Aalborg plant recovers excess heat from cement production to provide district heating to local inhabitants. The recovered thermal energy is used to heat the homes of about 36,000 families. In 2020, Aalborg Portland delivered about 1.8 million GJ of energy to the Municipality of Aalborg. According to the engineering project developed by the Group, Aalborg plant could improve the supply of energy of additional 1 million GJ. In Aalborg, we are producing grey cement and white cement. The plant has 6 kilns, 5 reserved for the production of white cement and one for the production of grey cement. As of July 2021, only the kilns reserved for the production of white cement are equipped to recover heat and deliver it to the district heating. The grey cement kiln of Aalborg Portland is currently not equipped with waste heat recovery. In the industrial Plan 2021-2023, we included the heat recovery project for the kiln producing grey cement.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

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

Yes, an estimated range

**Potential financial impact figure (currency)**

&lt;Not Applicable&gt;

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

5000000

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

10000000

**Explanation of financial impact figure**

According to the engineering project developed by the Group, Aalborg plant could improve the supply of energy of additional 1 million GJ. In Aalborg, we are producing grey cement and white cement. The plant has 6 kilns, 5 reserved for the production of white cement and one for the production of grey cement. As of July 2021, only the kilns reserved for the production of white cement are equipped to recover heat and deliver it to the district heating. The grey cement kiln of Aalborg Portland is currently not equipped with waste heat recovery. The heat delivered to the district heating is sold by Aalborg plant to the local energy provider that manages the district heating. Assuming a price for the energy delivered between 5 € per GJ and 10 € per GJ, we can estimate a positive financial impact between 5 million € and 10 million €.

**Cost to realize opportunity**

25000000

**Strategy to realize opportunity and explanation of cost calculation**

Aalborg Portland (AP), the danish plant of Cementir, has delivered District Heating to the Municipality of Aalborg, since 1990. In AP, we are producing grey cement and white cement. The plant has 6 kilns, 5 reserved for the production of white cement and one for the production of grey cement. As of July 2021, only the kilns reserved for the production of white cement are equipped to recover heat and deliver it to the district heating. The kiln reserved for the production of grey cement is not equipped with waste heat recovery, but the installation of the equipment is possible. The cost to realize the opportunity is related to investment needed to equipped the kiln for grey cement with heat recovery system. Costs to realize the opportunity have been already estimated by Cementir in a business case. The investment is about 25 million € (50% of the investment is related to the equipments and 50% related the other activities needed as installation, engineering, construction works, electrical and mechanical activities)

**Comment**

There are not other additional relevant informantion

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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

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cement by 2030 from a 2020 base year. As a part of our strategy for reducing Scope2 emissions, we planned the increasing of electricity coming from renewable sourcing. For this reason we planned the construction of 2 Wind Turbine Generator (2 WTG with

4,200 kW ) in the Aalborg plant, where we have production facilities. The energy produced will be used by the plant. According to the estimation prepared, 2 WTG could save the purchase of 22.000 - 30.000 MWh and could contribute to reduce CO2 emission of 25.000 tons CO2/year. Even if, this will not impact our CO2 quotas for ETS it will have an indirect impact for the society, as a whole (communities and people).

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-low

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

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

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

1040000

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

1560000

**Explanation of financial impact figure**

According to the estimation prepared, 2 WTG could save the purchase of 22.000 - 30.000 MWh. The plant could use the electricity coming from the WTGs without buying it from external providers. Assuming a cost between 40 and 60 EUR/Mwh and a potential saving of 26.000 Mwh, we can estimate a potential positive impact between 1.04 million € and 1.56 million €, yearly.

**Cost to realize opportunity**

6800000

**Strategy to realize opportunity and explanation of cost calculation**

Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cement by 2030 from a 2020 base year. With this target, Cementir commits to reduce scope 1 GHG emissions 23.9% per ton of cement and scope 2 GHG emissions 42.3% per ton of cement within the same timeframe. As a part of our strategy for reducing Scope2 emissions, we planned the increasing of electricity coming from renewable sourcing. For this reason we planned the construction of 2 Wind Turbine Generator (2 WTG with 4,200 kW ) in the Aalborg plant, where we have production facilities. The energy produced will be used by the plant. We have performed a scouting activities in order to look for the best solution. According to offers collected from the suppliers , an investment of 6,8 million EUR is estimated for the implementation of the WTGs. In the amount, we included the equipments, civil works, connection to electricity grid and cabling. About the 70% of the investment is related to the equipments (the WTGs) and the remaining 30% is related to other activities (civil works, connection to electricity grid, cabling).

**Comment**

There are not other additional relevant information

**C3. Business Strategy**

**C3.1**

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

Yes, and we have developed a low-carbon transition plan

**C3.1a**

**(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?**

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	Cementir defined a plan on how to transition the Group to a business model compatible with a net-zero carbon economy. As first step, Cementir defined a 10 roadmap to reduce its scope 1 and 2 emissions according to the reductions required to keep warming to Well-below 2°C. In particular, Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious materials by 2030 from a 2020 base year. In July 2021, the Science-Based Targets initiative (SBTi) validated the targets. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. The achievement of 2030 reduction target is the first step for the net-zero emission. The Group is also committed to achieve the net-zero emission within 2050. The main pillar that will support the strategy for the 2050 are: -Reduce scope 1 emissions according to a net-zero pathway endorsed by SBTi and EU - Production driven only by FUTURECEM™ technology (reported in 2.4a, Cementir developed a new low carbon cement, FUTURECEM™, that could generate opportunities for CO2 reductions) - Replacement of fossil fuel with CO2 free fuels - development of Carbon Capture Storage and Use (CCUS). Cementir through its Danish subsidiary Aalborg Portland is participating in an international consortium led by New Energy Coalition and the University of Groningen that will develop a European innovation project named "ConsenCUS – CarbOn Neutral cluSters through Electricity-based iNnovations in Capture, Utilisation and Storage". Cementir will operate a CO2-capturing test-facility to provide reference data for the new capturing technology. Cementir is responsible for preparing, supporting and testing of the capturing facility for 5 months - zero scope 2 emissions by expanding renewable energy sources - Reduction of Scope 3 emission: CO2 emissions embedded in sourcing decisions - Carbon offset measures to compensate unavoidable residual emissions

C3.2

**(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?**

Yes, qualitative, but we plan to add quantitative in the next two years

C3.2a

**(C3.2a) Provide details of your organization's use of climate-related scenario analysis.**

Climate-related scenarios and models applied	Details
IEA B2DS Other, please specify (Net Zero by 2050)	<p>Climate-related scenario analysis is used by Cementir to review the impact of climate-related risks on our operations. Well below 2°C is used. Well below 2°C is a term drawn directly from the Paris Agreement that calls for a global commitment to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels." The scientific community tends to equate "well below 2°C" to the IPCC's "likely chance" terminology, which means a 66% probability of keeping temperature rise below 2°C. This is also the scenario used by EU for the development of the European Green deal and EU Taxonomy regulation. The main results of the analysis are that transitional risks and opportunities are far more relevant for Cementir than the physical ones. As reported in 2.3a (see risk 1), the potential financial impact related to the regulatory framework for CO2 in Europe could be around 30 million € of additional yearly cost starting from 2022. But as reported in 2.4a (see Opp. 1), Cementir developed a new low carbon cement, FUTURECEM™, that could generate opportunities for CO2 reductions and new revenue streams. The more CO2 emissions are constrained by regulatory framework and the more relevant are transitional risks, in the most constrained scenarios the need for breakthrough technology (i.e. carbon capture usage and storage) becomes fundamental. Because of the scenario analysis, Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. The mentioned targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep warming to Well-below 2°C and have been validated by the Science Based Targets Initiative (SBTi). The scenario analysis conducted in this respect refers to a medium-term timeframe, until 2030. The timeframe 2030 was selected due to its importance in policies and regulations (for example, EU ETS). Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Case Study Situation: In 2019, Cementir established 2030 CO2 reduction targets. However, since this scope 1 emissions target had not been verified by the science based target initiative (SBTi), third parties (i.e. investors) were questioning the validity and correctness of the ambition. Task: Cementir must develop a 10-year roadmap for the CO2 reduction aligned with the SBTi guidelines. Cementir committed to achieve the SBTi certification of its target by 2021 Action: Cementir defined a 10-year roadmap to reduce its scope 1 and 2 emissions. In parallel, it engaged with SBTi to complete the formal target submission letter to assess the alignment of its CO2 targets against a well below 2°C scenario Results: In July 2021, the Science-Based Targets initiative (SBTi) validated Cementir's targets to reduce its emissions. Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious materials by 2030 from a 2020 base year. According to SBTi, the targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep warming to Well-below 2°C.</p>

C3.3



**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Situation: Most climate experts agree that the escalating climate crisis is the defining issue this lifetime and that the world must take urgent action to cut CO <sub>2</sub> emissions and we cannot deny that cement manufacturing is a process that makes intensive use of thermal energy, releasing both direct and indirect CO <sub>2</sub> emissions into the atmosphere. Climate action is at the heart of the European Green Deal and EU Taxonomy, an ambitious European package of measures for cutting greenhouse gas emissions. Climate change is thus reshaping the cement sector. Task: Cementir must develop product solution (i.e. new low carbon cement) to cut greenhouse emissions. Action: Cementir developed FUTURECEM™, a low carbon cement with a carbon footprint that is up to 30 percent lower compared to traditional Portland cement. FUTURECEM™ technology is fully acknowledged as a solution for clinker ratio reduction in the roadmap for "Low Carbon transition in the cement industry" by International Energy Agency - 2018. From 2014-2019, Cementir participated, together with researcher institutions and a range of stakeholders and customers from the construction industry, in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. In March 2020, Bureau Veritas certified the compliance of FUTURECEM™ with the requirements in cement standard (EN 197-1:2011) Results: On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of almost 1 million ton of FUTURECEM™. According to current estimates, by 2030 FUTURECEM™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe. As reported in C2.4a, in the 2021-2023 period, the replacement of 1 million ton of the current grey portland cement with the production of 1 million ton of FUTURECEM could reduce the CO <sub>2</sub> emission of our European plant of about 193,000 ton.
Supply chain and/or value chain	Yes	Situation: Following the scenario analysis, as described in C3.2a, Cementir decided to develop a 10 year roadmap for the CO <sub>2</sub> reduction aligned with the SBTi guidelines. The calculation of scope 3 is a mandatory step for the definition of a Science Based target. For this reason, in 2020, Cementir started to monitor CO <sub>2</sub> emission of the main Suppliers in order to calculate for the first time the Scope 3 emissions. Task: Implement a CO <sub>2</sub> monitoring system for the Group value chain in order to calculate Scope 3 emissions and for the future, understand where to prioritize reductions in the value chain in line with science based guidelines. Action: To calculate scope 3 emissions and promote awareness among suppliers of their impact on climate change, 55 suppliers (30% of the total purchases by value) were invited to participate in the CDP Supply Chain program. To support this engagement and boost supplier response rates, dedicated supplier training webinars were held. This training aims to communicate the importance and benefits from transparently reporting on emissions and climate impact. Each Supplier has been invited to disclose information about its risks and opportunities associated with climate change, its emissions, details on its emissions management strategy such as targets, and actions it has taken to reduce its emissions. Result: 24% of the Suppliers involved provided their environmental information through CDP Supply Chain program. Cementir used this information for the calculation of the Scope 3 emissions related to "Purchased goods and services", as reported in C6.5. As forward looking target, we planned to increase the rate of supplier response over 50%, in the next two years (2021-2022). According to the information collected Cementir will: - Monitor the scope 3 emission of its supply chain - Monitor the action undertaken by the supplier to manage the climate change risk - Spreading awareness of suppliers on climate change. - understand where to prioritize reductions in the Supply Chain in line with science based guidelines.
Investment in R&D	Yes	Situation: Most climate experts agree that the escalating climate crisis is the defining issue this lifetime and that the world must take urgent action to cut CO <sub>2</sub> emissions and we cannot deny that cement manufacturing is a process that makes intensive use of thermal energy, releasing both direct and indirect CO <sub>2</sub> emissions into the atmosphere. Climate action is at the heart of the European Green Deal and EU Taxonomy, an ambitious European package of measures for cutting greenhouse gas emissions. Climate change is thus reshaping the cement sector. For this reason, in the last years, Cementir focused its R&D on low carbon products (FUTURECEM™, as described in "C.3.3 Products and services") or other project able to reduce CO <sub>2</sub> emissions of the production process. Task: develop project in order to replace fossil fuels with alternative fuels for reducing the CO <sub>2</sub> emission related to the combustion of fuels for producing clinker. Cement production is a thermal energy intensive process, which requires heating raw materials up to 1450°C and cooling it down. Limestone and clay are heated to approximately 1,450 degrees Celsius in rotary kiln in order to produce clinker, semi-finished product. Action: following the feasibility study for addressing an opportunity for conversion from fossil fuels (i.e. petcoke or coal) to natural gas, Cementir planned the utilization of natural gas in Aalborg, our Danish plant. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO <sub>2</sub> ), is a transitional solution for Cementir's path to net-zero emissions. Results: As part of this project, in 2020, Aalborg plant has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The related investment for the utilization of natural gas in Aalborg has been included in the 2021-2023 industrial plan approved by the Bord of Director. Following the implementation of the investment, a reduction of 20% of CO <sub>2</sub> is estimated for the Aalborg plant.
Operations	Yes	Situation: Climate action is at the heart of the European Green Deal and EU Taxonomy, an ambitious European package of measures for cutting greenhouse gas emissions. Climate change is thus reshaping the cement sector. Regulatory framework for CO <sub>2</sub> are tightening in Europe and in other part of the world. As reported in 2.3a, the potential financial impact related to the regulatory framework for CO <sub>2</sub> in Europe could be around 30 million € of additional yearly cost starting from 2022. Task: For each plant, Cementir must develop a 10 year roadmap for the CO <sub>2</sub> reduction aligned with the SBTi guidelines. Action: Cementir defined a 10 roadmap to reduce its scope 1 and 2 emissions. In parallel, it engaged with SBTi to complete the formal target submission letter to assess the alignment of its CO <sub>2</sub> targets against a well below 2°C scenario. Specific targets for CO <sub>2</sub> emissions, alternative fuels and clinker ratio have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Monetary incentives have been defined for the management of climate-related issues. Results: In July 2021, the Science-Based Targets initiative (SBTi) validated Cementir's targets to reduce its emissions. Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. The targets validated by SBTi are the targets deployed in every single plant and per year and included in the Industrial Plan 2021-2023 and in our employee short-term incentive system.

**C3.4**

**(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital allocation	Situation: Climate action is at the heart of the European Green Deal and EU Taxonomy, an ambitious European package of measures for cutting greenhouse gas emissions. Climate change is thus reshaping the cement sector. Regulatory framework for CO <sub>2</sub> is tightening in Europe and in other part of the world. In Europe the CO <sub>2</sub> price evolution in the EU ETS is affecting the company cost structure and is affecting financial evaluation and related investment decisions. Due to the CO <sub>2</sub> price, Companies are planning investments once not financially convenient. Task: Cementir must prepare a 10 year roadmap for the CO <sub>2</sub> reduction in order to reduce the financial impact related to CO <sub>2</sub> regulations. As reported in 2.3a, the potential financial impact related to the regulatory framework for CO <sub>2</sub> in Europe could be around 30 million € of additional yearly cost starting from 2022. Action: In the 10 year Roadmap, the Group planned the main investment needed until 2030, out of which 107 million declared in the Industrial Plan 2021-2023, approved by the Cementir Board of Director in February 2021. The 10-year roadmap describes the main investments needed to support the 2030 targets. To foster the transition of the Group to a low carbon economy, decisions on investments are driven by an internal carbon price (in 2020, €30 per ton has been applied). Cementir also applies an internal carbon price to navigate GHG regulations such as the EU ETS. For the plants located in the EU, we run various scenarios with different prices to anticipate the CO <sub>2</sub> cost the Group will be exposed to until 2030. The regulatory framework for CO <sub>2</sub> (i.e. EU ETS) is affecting the financial evaluation of the business case prepared to evaluate any investment. For example, following the feasibility study for addressing an opportunity for conversion from fossil fuels (i.e. petcoke or coal) to natural gas, Cementir planned the utilization of natural gas in Aalborg, our Danish plant. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO <sub>2</sub> ), is a transitional solution for Cementir's path to net-zero emissions. Due to the reduction in CO <sub>2</sub> emissions, Cementir will have to buy a minor number of CO <sub>2</sub> quotas in EU ETS. This reduction in the CO <sub>2</sub> quotas led to a positive financial impact that affect positively the business case evaluation (due to natural gas combustion, cementir will buy less CO <sub>2</sub> quotas). Results: Without the regulatory framework for CO <sub>2</sub> , the mentioned investment will not have a positive NPV (net present value) and Cementir will not probably implemented it. Therefore, the capital expenditure would be allocated in a different way. As part of this project, in 2020, Aalborg plant has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The related investment for the utilization of natural gas in Aalborg has been included in the 2021-2023 industrial plan approved by the Bord of Director. Following the implementation of the investment, a reduction of 20% of CO <sub>2</sub> is estimated for the Aalborg plant.

**C3.4a**

**(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

All the relevant information have been reported in the previous sections (see C3.1, C3.1a, C3.2, C3.2a, C3.3, C3.4)

## 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

**Year target was set**

2021

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Other, please specify (Scope 1+2 (market-based) + biogenic emissions, as requested by SBTi guidelines)

**Intensity metric**

Metric tons CO2e per metric ton of cement

**Base year**

2020

**Intensity figure in base year (metric tons CO2e per unit of activity)**

863

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

100

**Target year**

2030

**Targeted reduction from base year (%)**

25.3

**Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

644.661

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

-24.1

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

0

**Intensity figure in reporting year (metric tons CO2e per unit of activity)**

863

**% of target achieved [auto-calculated]**

0

**Target status in reporting year**

New

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

Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**

Well-below 2°C aligned

**Please explain (including target coverage)**

Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. The target boundary includes biogenic emissions and removals from bioenergy feedstocks. The targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep warming to Well-below 2°C. In July 2021, the Science-Based Targets initiative (SBTi) validated the target. The target, expressed in CO2 emissions per ton of cementitious materials, equate to a reduction from 863 kg in 2020 to 644.6kg by 2030. In the target have been included, scope 1 emissions, scope 2 emissions (market-based) and biogenic emissions, as requested by SBTi guidelines.

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### C4.2

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

Net-zero target(s)

Other climate-related target(s)

**C4.2b**

**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

**Target reference number**

Oth 1

**Year target was set**

2019

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Intensity

**Target type: category & Metric (target numerator if reporting an intensity target)**

Fossil fuel reduction target	Percentage of fossil fuels in the fuel mix
------------------------------	--

**Target denominator (intensity targets only)**

GJ

**Base year**

1990

**Figure or percentage in base year**

100

**Target year**

2030

**Figure or percentage in target year**

23

**Figure or percentage in reporting year**

72

**% of target achieved [auto-calculated]**

36.3636363636364

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

Yes. As mentioned in C4.1. Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. To achieve the mentioned targets, Cementir defined a 10-year roadmap to maximise the deployment of existing technologies. Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Concerning fossil fuels, by 2030, the Group will reduce the proportion of fossil fuels in the fuel mix to 23% for producing grey cement and 94% for white cement. The target is company-wide deployed between grey and white cement.

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

No, it's not part of an overarching initiative

**Please explain (including target coverage)**

As mentioned in C4.1. Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. To achieve the mentioned targets, Cementir defined a 10-year roadmap to maximise the deployment of existing technologies. Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Concerning fossil fuels, by 2030, the Group will reduce the proportion of fossil fuels in the fuel mix to 23% for producing grey cement and 94% for white cement. The target is company-wide deployed between grey and white cement.

**Target reference number**

Oth 2

**Year target was set**

2019

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Intensity

**Target type: category & Metric (target numerator if reporting an intensity target)**

Fossil fuel reduction target	Percentage of fossil fuels in the fuel mix
------------------------------	--

**Target denominator (intensity targets only)**

GJ

**Base year**

1990

**Figure or percentage in base year**

100

**Target year**

2030

**Figure or percentage in target year**

94

**Figure or percentage in reporting year**

97

**% of target achieved [auto-calculated]**

50

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

Yes. As mentioned in C4.1. ementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. To achieve the mentioned targets, Cementir defined a 10-year roadmap to maximise the deployment of existing technologies. Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Concerning fossil fuels, by 2030, the Group will reduce the proportion of fossil fuels in the fuel mix to 23% for producing grey cement and 94% for white cement. The target is company-wide deployed between grey and white cement.

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

No, it's not part of an overarching initiative

**Please explain (including target coverage)**

As mentioned in C4.1. ementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. To achieve the mentioned targets, Cementir defined a 10-year roadmap to maximise the deployment of existing technologies. Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. Concerning fossil fuels, by 2030, the Group will reduce the proportion of fossil fuels in the fuel mix to 23% for producing grey cement and 94% for white cement. The target is company-wide deployed between grey and white cement.

**C4.2c****(C4.2c) Provide details of your net-zero target(s).****Target reference number**

NZ1

**Target coverage**

Company-wide

**Absolute/intensity emission target(s) linked to this net-zero target**

Int1

**Target year for achieving net zero**

2050

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

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

**Please explain (including target coverage)**

As mentioned in C4.1. Cementir commits to reduce scope 1 and scope 2 GHG emissions 25.3% per ton of cement by 2030 from a 2020 base year. To achieve the mentioned targets, Cementir defined a 10-year roadmap to maximise the deployment of existing technologies. Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals. Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system. The achievement of 2030 reduction target is the first step for the net-zero emission. The Group is also committed to achieve the net-zero emission within 2050. The main pillar that will support the strategy for the 2050 are: -Reduce scope 1 emissions according to a net-zero pathway endorsed by SBTi and EU - - Production driven only by FUTURECEM™ technology (reported in 2.4a, Cementir developed a new low carbon cement, FUTURECEM™, that could generate opportunities for CO<sub>2</sub> reductions) - Replacement of fossil fuel with CO<sub>2</sub> free fuels - development of Carbon Capture Storage and Use (CCUS). Cementir through its Danish subsidiary Aalborg Portland is participating in an international consortium led by New Energy Coalition and the University of Groningen that will develop a European innovation project named "ConsenCUS – CarbOn Neutral cluSters through Electricity-based iNnovations in Capture, Utilisation and Storage". Cementir will operate a CO<sub>2</sub>-capturing test-facility to provide reference data for the new capturing technology. Cementir is responsible for preparing, supporting and testing of the capturing facility for 5 months. - zero scope 2 emissions by expanding renewable energy sources - Reduction of Scope 3 emission: CO<sub>2</sub> emissions embedded in sourcing decisions - Carbon offset measures to compensate unavoidable residual emissions

**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	1	300000
To be implemented*	2	257000
Implementation commenced*	2	142333
Implemented*	4	8700
Not to be implemented	0	0

### C4.3b

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

**Initiative category & Initiative type**

Energy efficiency in production processes	Process optimization
---	----------------------

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

3000

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

77000

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

122000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

One Initiative related to one plant. New modules for Kiln heat exchanger that help recover heat lost, resulting in reduction in heat consumption and lower fuel consumption with a saving of 3.000 tons of CO2, yearly

**Initiative category & Initiative type**

Energy efficiency in production processes	Other, please specify (energy efficiency initiatives related tp process and service re-design to improve energy efficiency)
---	---

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

5700

**Scope(s)**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

60000

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

133000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Three initiative for improving energy efficiency. 1) Upgrading of the ID fan in an asian plant with improvement of fan reliability and efficiency. The old ID fan efficiency was only 71.5%, with high vibration (> 5mm/s), and limited capacity to increase kiln output. (ID fans in cement plant are used for transport material by air among the technolog). 2 and 3) re-design of mill system and new design for sludge transport in an european plant

### C4.3c

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

Method	Comment
Internal price on carbon	For example, in 2020, we apply an internal carbon price of 30 EUR to navigate GHG regulations such as the EU ETS. According to the evolution of CO2 prices in the EU ETS market, in 2021 the internal carbon price has been increased to 50 EUR. Situation: Cement production is a thermal energy intensive process, which requires heating raw materials up to 1450°C and cooling it down. Limestone and clay are heated to approximately 1,450 degrees Celsius in rotary kiln in order to produce clinker, semi-finished product. For reaching the mentioned temperature (1,450 degrees) is usually used petcoke, a fossil fuel with high energy content and high CO2 emission. Task: develop project in order to replace petcoke with alternative fuels for reducing the CO2 emission related to the combustion of fuels for producing clinker. Action: following the feasibility study for addressing an opportunity for conversion from petcoke to natural gas, Cementir planned the utilization of natural gas in the Aalborg plant. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO <sub>2</sub> ), is a transitional solution for Cementir's path to net-zero emissions. Results: Due to the reduction in CO2 emissions, Cementir will have to buy a minor number of CO2 quotas in EU ETS. This reduction in the CO2 quotas led to a positive financial impact that affect positively the business case evaluation (due to natural gas combustion, cementir will buy less CO2 quotas). Without the application of the carbon price, the mentioned investment will not have a positive NPV (net present value) and Cementir will not probably implemented it. Therefore, the capital expenditure would be allocated in a different way. As part of this project, in 2020, Aalborg plant has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The related investment for the utilization of natural gas in Aalborg has been included in the 2021-2023 industrial plan approved by the Bord of Director. Following the implementation of the investment, a reduction of 20% of CO2 is estimated for the Aalborg plant.
Partnering with governments on technology development	Cementir actively participates in global and national industry policy discussions on issues related to Climate Change, Sustainable Infrastructure, Circular Economy, Alternative Fuels, and Waste Management Frameworks, among others. For example, since November 2019, the Group has been involved in the most ambitious CO2 reduction project ever sponsored by a national government. In autumn 2019 the Danish government made a broad political agreement with all political parties, including one at parliamentary level about a binding climate law with the target of reducing Danish CO2 emissions by 70% by 2030 compared with the 1990 baseline. The Managing Director of Cementir's subsidiary Aalborg Portland is leading the climate partnership for the Danish energy intensive industry. The working group will provide the Danish government with the technical forecast of all potential CO2 reduction achievable and will define the prerequisites (policy, research, innovation, subsidies, etc.) for such reductions. The key policy recommendations are in progress. The climate partnership is working on: - Developing a danish national strategy for carbon capture and subsidy a lighthouse project; - Liberalizing the market for heat recovery/district heating; - Ensuring affordable sustainable fuels (like biogas) - Supporting a market request for sustainable products (public procurement, building regulation etc.). In 2020, Aalborg Portland, our Danish subsidiary, committed to a CO <sub>2</sub> reduction target of 30% by 2030. As part of this strategy, Aalborg Portland has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The switching to natural gas, a fossil fuel with missions lower than petcoke (estimated reduction of 20% of CO <sub>2</sub> ), is a transitional solution for Cementir's path to net-zero emissions.
Internal incentives/recognition programs	We provide monetary incentive to the Top Management and Middle Management for the achievement of climate-related targets. For example, as already mentioned in section C1.3a, The Head of Regions and Managing Directors of BU receive a monetary incentives, if their Regions or BUs accomplish targets related to CO2 emissions reductions, clinker/cement substitution, use of alternative fuels. Cementir set 2030 targets. Each target has been deployed per single plant and years. The interim targets have been included in the 2021-2023 Industrial plan approved by the BoD in February 2021.
Compliance with regulatory requirements/standards	The Group develops different scenarios analysis to quantify the potential impacts of regulatory requirements / standards, as already reported in the section C2. Risks and opportunities. For example, as described in the C2.3a, Among the areas where Cementir operates, Europe is the only major region with a regulatory framework for CO2 quotas. According to the possible scenario developed by the Group, Cementir will have free CO2 allowances until the end of 2021. Starting 2022, allowances for around 600,000 tons of CO2 of yearly emissions will be purchased. The potential financial impact for Cementir could be around 30 million € of additional yearly cost starting from 2022. The estimation assumes a CO2 price of 50 EUR. 30 million € is the 11.4% of 2020 Group EBITDA. In 2020, the Group EBITDA was 263.7 million €.

**C4.5**

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

**C4.5a**

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

**Level of aggregation**

Group of products

**Description of product/Group of products**

FUTURECEM™ is a patented Technology that relies on the synergy between calcined clay and limestone filler which allows for more than 40% clinker replacement in cement, whilst keeping the same performance of CEM I Portland cement. Due to the mentioned decrease in the clinker content, FUTURECEM™ allows a 30% CO2 emissions reduction in cement production. It is a proven innovation, which has been used for building two bridges in Denmark (see project "Green Concrete II", an R&D project supported by the Danish Innovation Fund and Cementir Group via the Danish legal entity Aalborg Portland). In March 2020, Bureau Veritas certified the compliance of FUTURECEM™ with the requirements in cement standard (EN 197-1:2011). FUTURECEM™ technology is fully acknowledged as a solution for clinker ratio reduction in the roadmap for "Low Carbon transition in the cement industry" by International Energy Agency - 2018.

**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 (FUTURECEM technology is fully acknowledged as a solution for clinker ratio reduction in the roadmap for "Low Carbon transition in the cement industry" by the International Energy Agency – 2018)

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

1

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

In 2014 - 2019 period, the new technology has been tested with innovative solutions in the production of ready-mixed concrete in the Danish project Green Concrete II, by building structures used for testing new technologies in real-life conditions (a rail bridge, a road bridge, indoor wall and floor). Within this project, FUTURECEM™ has been tested at full-scale in construction parts for infrastructure as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute (DTU). Such demonstrations showed that FUTURECEM™ can be implemented in the concrete industry, while maintaining conventional production and execution technologies. In Aalborg (the Danish cement plant), the first full-scale production trial was performed in 2019. From September 2019 to Spring 2020, the trial productions and internal sampling/testing within Group's company was carried out for concrete applications. In March 2020, Bureau Veritas certified the first cement based on FUTURECEM™ in accordance to European cement standard EN 197-1:2011. On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of almost 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 Futurecem™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe.

**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	24
Pre-calcliner	63

**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 2017

**Base year end**

December 31 2017

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

7711243

**Comment**

We decided to report as base year the 2017, because in 2017 Cementir Group acquired the Belgium plant of Guarain (Compagnie des ciments belges). Following this acquisition, the Group structure has changed significantly. The Belgium plant account for about the 25% of the grey cement production capacity of Cementir Group (out of 9,8 million ton of capacity, 2,3 are related to the Belgium plant). We reported Scope 1 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Scope 2 (location-based)**

**Base year start**

January 1 2017

**Base year end**

December 31 2017

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

692327

**Comment**

We decided to report as base year the 2017, because in 2017 Cementir Group acquired the Belgium plant of Guarain (Compagnie des ciments belges). Following this acquisition, the Group structure has changed significantly. The Belgium plant account for about the 25% of the grey cement production capacity of Cementir Group (out of 9,8 million ton of capacity, 2,3 are related to the Belgium plant). We reported Scope 2 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Scope 2 (market-based)**

**Base year start**

January 1 2019

**Base year end**

December 31 2019

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

470293

**Comment**

In 2019, Cementir started to calculate the Scope 2 emission according to the market-based method. Previously, only location-based method was applied. The calculation was made by applying the Suppliers emission rate for the plants located in Europe, the residual mix figures for the plants located in US, while for the other countries, we updated the national grid average with the supplier specific data, if relevant. Combined, the European and Us operations account for the 80% of the total group revenues, as of December 2019.

**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 emissions.**

WBCSD: The Cement CO2 and Energy Protocol

**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)**

7977232

**Start date**

January 1 2020

**End date**

December 31 2020

**Comment**

We reported Scope 1 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Past year 1**

**Gross global Scope 1 emissions (metric tons CO2e)**

7161850

**Start date**

January 1 2019

**End date**

December 31 2019

**Comment**

We reported Scope 1 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Past year 2**

**Gross global Scope 1 emissions (metric tons CO2e)**

7493039

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

We reported Scope 1 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Past year 3**

**Gross global Scope 1 emissions (metric tons CO2e)**

7711243

**Start date**

January 1 2017

**End date**

December 31 2017

**Comment**

We reported Scope 1 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**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**

In 2019, Cementir started to calculate the Scope 2 emission according to the market-based method. We performed the calculation for 2019 and also for the 3 years before (2018, 2017 and 2016). Previously, only location-based method was applied. Until 2019, in the Sustainability Report, we reported scope 2 emission according location-based, only. In 2020, Scope 2 market-based figure was calculated by applying: the Supplier emission rates and the European Residual Mixes 2019 (AIB) for the operations located in Europe; the Green-e® Residual Mix (2018 data) for the operations located in US; for the other countries, we updated the national grid average with supplier specific data, if relevant. We reported Scope 2 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**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**

572227

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

700278

**Start date**

January 1 2020

**End date**

December 31 2020

**Comment**

Scope 2 market-based figure was calculated by applying: the Supplier emission rates and the European Residual Mixes 2019 (AIB) for the operations located in Europe; the Green-e® Residual Mix (2018 data) for the operations located in US; for the other countries, we updated the national grid average with supplier specific data, if relevant. We reported Scope 2 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Past year 1**

**Scope 2, location-based**

630114

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

470293

**Start date**

January 1 2019

**End date**

December 31 2019

**Comment**

Scope 2 market-based figure was calculated by applying the Suppliers emission rate for the plants located in Europe, the residual mix figures for the plants located in US, while for the other countries, we updated the national grid average with the supplier specific data, if relevant. Combined, the European and Us operations account for the 80% of the total group revenues, as of December 2019.

**Past year 2**

**Scope 2, location-based**

668920

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

505368

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

We reported Scope 2 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**Past year 3**

**Scope 2, location-based**

692327

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

644174

**Start date**

January 1 2017

**End date**

December 31 2017

**Comment**

We reported Scope 2 emissions for all segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling.

**C6.4**

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

No

**C6.5**

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

## Purchased goods and services

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

685221

### Emissions calculation methodology

This category includes emissions from purchased raw materials and semi-finished products for cement production, and emissions from purchased services such as research and marketing services, maintenance, cleaning and security services, and subcontracting and external services. In 2020, we started to investigate the CO<sub>2</sub> emissions of our suppliers in order to understand how they could be reduced and how to develop mutually beneficial projects (for both Cementir and the suppliers). In total, 55 suppliers (30% of total purchases by value) were invited to participate in the CDP Supply Chain programme. Each supplier was invited to disclose information about its risks and opportunities associated with climate change, its emissions, details on its emissions management strategy such as targets, and actions it has taken to reduce its emissions. For the calculation of the scope 3 emissions related to Purchased goods and services we used the data coming from the CDP Supply chain program. The emissions obtained by the suppliers of purchased goods and services who responded to the CDP were re-proportioned according to the spending for purchased goods and services recorded in 2020

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

13

### Please explain

The 2020 emissions of the suppliers that responded to the CDP are equal to 13% of the total emissions of the Purchased goods and services category.

## Capital goods

### Evaluation status

Not relevant, calculated

### Metric tonnes CO<sub>2</sub>e

44293

### Emissions calculation methodology

This category includes emissions from the following capital goods: constructions, machineries, electrical and optical equipment and transport equipment. The calculation was made on the basis of spending for capex in 2020 and using the GHG Protocol tool <https://quantis-suite.com/Scope-3-Evaluator/>

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

0

### Please explain

The calculation was made on the basis of spending for capex in 2020 and using the GHG Protocol tool We did not collect data from the suppliers for this specific category

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

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

1560067

### Emissions calculation methodology

This category includes well to tank emissions for fuel and electricity. The calculation was made applying the emission factors of DEFRA on Group consumption for fuels and electricity. Please see below the Greenhouse gas conversion factors for 2020 <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

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

0

### Please explain

The calculation was made applying the emission factors of DEFRA on Group consumption for fuels and electricity. Please see below the Greenhouse gas conversion factors for 2020 <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

211197

### Emissions calculation methodology

This category includes emissions from transportation by external trucks and cargo ship of purchased materials and semi-finished products and part of Cementir's sold products. The calculation was made on the basis of spending for transportation in 2020 and using the GHG Protocol tool <https://quantis-suite.com/Scope-3-Evaluator/>

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

0

### Please explain

The calculation was made on the basis of spending for transportation in 2020 and using the GHG Protocol tool <https://quantis-suite.com/Scope-3-Evaluator/>

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

227743

### Emissions calculation methodology

This category includes emissions from industrial waste disposal. The calculation was made applying the emission factors of DEFRA on the waste disposed by the Group during the year. Please see below the Greenhouse gas conversion factors for 2020 <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

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

0

### Please explain

The calculation was made applying the emission factors of DEFRA on the waste disposed by the Group during the year. Please see below the Greenhouse gas conversion factors for 2020 <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

## Business travel

### Evaluation status

Not relevant, calculated

### Metric tonnes CO<sub>2</sub>e

1481

### Emissions calculation methodology

This category includes emission from employee business travels. The calculation was made on the basis of spending for business travel in 2020 and using the GHG Protocol tool <https://quantis-suite.com/Scope-3-Evaluator/>

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

0

### Please explain

The calculation was made on the basis of spending for business travel in 2020 and using the GHG Protocol tool. Emissions related to business travel are not relevant comparing to the total emission of the Group. According to the group practices, usually only employees from HQ travels regularly (about 40 people over 3.000 total employees), moreover, starting from January 2020, due to the coronavirus outbreak, the Group suspended any business trips and promoted "work from home", where possible. For this reason, in the next future, we estimate a further decreasing of the relevance of this kind of emissions.

## Employee commuting

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Negligible: most of the employees live close to the plants. Moreover, from January 2020, due to the pandemic outbreak, the Group promoted remote working solutions. Emissions due to employee commuting are estimated to be less than 1% of the total Scope 3 emissions.

## Upstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector. Emissions due to upstream leased assets are estimated to be less than 1% of the total Scope 3 emissions

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

211197

### Emissions calculation methodology

This category includes emissions from transportation by external trucks and cargo ship of Cementir's sold products. Starting from the incointerm rules applied by the Group on the sales, we estimated the spending for the downstream transportation and distribution then we estimated the emissions using the GHG Protocol tool

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

0

### Please explain

Starting from the incointerm rules applied by the Group on the sales, we estimated the spending for the downstream transportation and distribution then we estimated the emissions using the GHG Protocol tool

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector.

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector. Emissions due to direct use-phase of sold cement products over their expected lifetime are estimated to be less than 1% of the total Scope 3 emissions.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector. Emissions due to end-of-life treatment of sold cement products are estimated to be less than 1% of the total Scope 3 emissions.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO<sub>2</sub>e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Not applicable: Cementir Group's business does not include leased assets

## Franchises

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Not applicable: Cementir Group does not have franchises

## Investments

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Not applicable: Provision of capital or financing is not included in Cementir Group's business

## 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>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector

## 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>

### Please explain

Negligible. According to the Cement Sector Scope 3 GHG Accounting and Reporting Guidance, developed by the Cement Sustainability Initiative, this category is considered "not relevant" to the cement sector

## C6.7

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

Yes

## C6.7a

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

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	298287	Co2 equivalent emission deriving from biomass combustion for the cement production. Cementir Holding uses, in addition to traditionally various fossil fuels to operate cement kilns, fuels derived from waste materials. These alternative fuels (AF) include fossil fuel-derived fractions such as, e.g. waste oil and plastics, as well as biomass-derived fractions such as waste wood and dewatered sludge from wastewater treatment. Therefore, these alternative fuels contain both fossil and biogenic carbon. Cementir Holding estimates CO2 emissions from biofuels/biomass combustion according to the CO2 and Energy Accounting and Reporting Standard for the Cement Industry, developed by the Cement Sustainability Initiative. According to the Cement Sustainability Initiative Standard, CO2 emissions from biofuels/biomass combustion are estimated by determining the share of the biogenic carbon in the fuel's overall carbon content, according to international standards (e.g. EN 15440). Moreover, the Cement Sustainability Initiative Standard advises companies to use a conservative approach in determining the biogenic carbon content, meaning that the biogenic carbon content should not be overestimated. A fossil carbon content of 100% shall be assumed for fuel types in case of a lack of reliable information on their biogenic carbon content until more precise data becomes available. On the basis of the share of the biogenic carbon in the fuel's overall carbon content, Cementir Holding estimated the share of CO2 emissions from biofuels/biomass combustion in the fuel's overall CO2 emissions.

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**

0.006979484

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

8549459

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1224793000

**Scope 2 figure used**

Location-based

**% change from previous year**

8.56

**Direction of change**

Increased

**Reason for change**

In 2020, the intensity figure increased to 6.98 Kg CO2/EUR from 6.42 Kg CO2/EUR (value related to 2019). The main reason is related to a different dynamic evolutions between revenues, sales and production. During 2020, Cement sales increased by 12.9% compared to 2019. To meet this sales demand the clinker production increased by 11.5% comparing 2019 and therefore also the total absolute CO2 emission increased (by 9.7%) Despite the rise of sales, the revenues rose only 1.1% compared 2019. This because revenues are affected by exchange rates (Cementir operates worldwide) and different market dynamic in the the various counties. Please be aware that we reported the CO2 (scope 1 + scope 2) related to the full Group. All segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling have been included in the calculation

**Intensity figure**

1.004059414

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

8549459

**Metric denominator**

Other, please specify (Clinker produced during the year. )

**Metric denominator: Unit total**

8513861

**Scope 2 figure used**

Location-based

**% change from previous year**

1.6

**Direction of change**

Decreased

**Reason for change**

Cement production is a thermal energy intensive process, which requires heating raw materials up to 1450°C and cooling it down. Limestone and clay are heated to approximately 1,450 degrees Celsius in rotary kiln in order to produce clinker, the semi-finished product and the main component of cement. Then gypsum or other high-grade materials such as slag, fly ash, pozzolan or limestone are grinding together with the clinker to produce cement. Carbon dioxide (CO2) is emitted as a by-product of clinker production. Cement manufacturing releases CO2 in the atmosphere both directly, when the calcium carbonate (CaCO3) included in the limestone is heated, producing lime (CaO) and carbon dioxide (CO2) (CaCO3 + heat => CaO + CO2) and indirectly purchasing electricity for using the grinding mills. For the mentioned reason the ratio usually used to monitor CO2 emission in cement secto is CO2 per ton of clinker In 2020, the intensity figure decreased by 1.6% to 1.004 from 1.020. the main reason is related to a reduction in scope 2 emission occurred in 2020 comparing to 2019 mainly related to a series of efficiency actions performed by the Group. In 2019 the GJ of electricity used for the clinker production were 0.56 while in 2020 this ratio decreased to 0.53 GJ/ton clinker (so less electricity was needed for producing a ton of clinker) . Please see C4.3b for the energy efficiency initiatives implemetend in 2020. Please be aware that we reported the CO2 (scope 1 + scope 2) related to the full Group. All segments: Cement, Aggregates, Ready Mix Concrete, Concrete prefabricated products, Waste Management and Recycling have been included in the calculation

**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	0.9328	0.8874	0.0653
Cement equivalent	0.7686	0.7312	0.0538
Cementitious products	0.764	0.7263	0.0534
Low-CO2 materials	0.5482	0.5235	0.046



## 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)
Denmark	2355308
Belgium	1199581
Turkey	3023347
Egypt	406624
Malaysia	295317
China	454032
United States of America	220624

### C7.3

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

By business division

By facility

By activity

### C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Nordic & Baltic Region	2355308
Belgium Region	1199581
Turkey CEM BU	3023347
Asia Pacific	749349
Egypt CEM BU	406624
North American Region	220624
Waste Management BU	2

### C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Den_1	2343707	57.05276	9.978676
Belgium_1	1197750	50.595716	3.481121
Turkey_1	1323534	38.42608	27.216053
Turkey_2	743150	41.799189	26.691284
Turkey_3	647889	38.664642	39.237156
Turkey_4	308774	40.575994	43.010445
Malesia	295317	4.591978	101.09
China	454032	30.535	117.104
US_1	106827	39.96	-76.72
US_2	113797	31.54	-97.14
Egypt	406624	31.12	33.8

### C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Cement Production	7941401
Concrete Production	20916
Aggregates, waste management and recycling and other products (concrete prefabricated products)	14915

**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	7941401	7555253	We reported gross and net scope 1 emissions related to cement production activities.
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**C7.5**

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Denmark	108105	157161	337829	120943
Belgium	73264	54913	292605	180186
Sweden	201	500	9948	9029
Turkey	211984	315130	447628	196956
Egypt	43909	33544	71982	26993
Malaysia	34633	36745	42236	1575
China	75198	74453	74453	28505
Norway	179	2957	7461	3454
United Kingdom of Great Britain and Northern Ireland	1124	1017	2927	849
United States of America	23631	23858	48650	18124

**C7.6**

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

- By business division
- By facility
- By activity

**C7.6a**

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Nordic & Baltic Region	108485	160618
Belgium Region	73264	54913
Turkey CEM BU	210291	313323
Asia Pacific Region	109831	111198
Egypt CEM BU	43909	33544
North American Region	23631	23858
Waste BU	2817	2824

**C7.6b**

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Den_1	106581	154946
Belgium_1	64697	48567
Turkey_1	91648	136696
Turkey_2	51259	76455
Turkey_3	44614	66544
Turkey_4	20858	31110
Malesia	34633	36745
China	75198	74453
US_1	9804	11529
US_2	12812	10221
Egypt_1	43909	33544

**C7.6c**

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Cement Production	556014	680808
Concrete Production	4016	8493
Aggregates and other products (concrete prefabricated products)	9380	8153
Waste Management and Recycling	2817	2824

**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	556014	680808	
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 (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

**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	13313	Decreased	0.17	The consumption of renewable electricity increased of 31.076 Mwh in 2020 comparing 2019. To estimate the emissions saved, we multiply this amount of renewable electricity for the average CO2 intensity of electricity purchased in 2020 (428.4kg CO2/MWh). In this way, we estimate a CO2 saving of 13,313 metric tons CO2e. The emission value (percentage) is 0.17 because we divided the change in emission per the total Scope 1 and Scope 2 (Location based) of the previous year, as reported in C6.1 and C6.3. $0.17\% = 13,313 / (7,161,850 + 630,114)$ . In 2020 the scope 1 + scope 2 (location based) emissions increased of 757,495 tons. Scope 1 + Scope 2 in 2020: $8,549,459 = 7,977,232 + 572,227$ . See C6.1 and C6.3. Scope 1 + Scope 2 in 2019: $7,791,964 = 7,161,850 + 630,114$ . See C6.1 and C6.3. Out of a difference of 757,495: A) 13,313 is a reduction related to Change in renewable energy consumption B) 8,700 is a reduction related to Other emissions reduction activities C) 1,500 is a reduction related to Divestment D) 818,757 is an increasing related to Change in output E) 37,749 is a reduction related to other. Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. $D - A - B - C - E = 757,459$ . So D less A, B, C and E explain the difference between 2020 and 2019.
Other emissions reduction activities	8700	Decreased	0.11	initiatives implemented in 2020 as described in C4.3b. A total of 8,700 tons has been reduced due to: - the installation of new modules for a kiln heat exchanger that caused lower fuel consumption with a saving of 3,000 tons; - three initiative for improving energy efficiency that generated a saving of 5,700 tons. The emission value (percentage) is 0.11 because we divided the change in emission per the total Scope 1 and Scope 2 (Location based) of the previous year, as reported in C6.1 and C6.3. $0.11\% = 8,700 / (7,161,850 + 630,114)$ . In 2020 the scope 1 + scope 2 (location based) emissions increased of 757,495 tons. Scope 1 + Scope 2 in 2020: $8,549,459 = 7,977,232 + 572,227$ . See C6.1 and C6.3. Scope 1 + Scope 2 in 2019: $7,791,964 = 7,161,850 + 630,114$ . See C6.1 and C6.3. Out of a difference of 757,495: A) 13,313 is a reduction related to Change in renewable energy consumption B) 8,700 is a reduction related to Other emissions reduction activities C) 1,500 is a reduction related to Divestment D) 818,757 is an increasing related to Change in output E) 37,749 is a reduction related to other. Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. $D - A - B - C - E = 757,459$ . So D less A, B, C and E explain the difference between 2020 and 2019.
Divestment	1500	Decreased	0.02	In July 2020, Cementir sold assets related to the processing of municipal solid waste. To estimate the emissions saved, we based our calculation on the emission issued by the mentioned assets the previous year. In 2019, the mentioned assets issued 3,000 tons of CO2. In 2020, they belong to cementir only 6 months (half year). Therefore, the saving is 1,500 ( $3,000 / 2$ ). The emission value (percentage) is 0.02 because we divided the change in emission per the total Scope 1 and Scope 2 (Location based) of the previous year, as reported in C6.1 and C6.3. $0.02\% = 1,500 / (7,161,850 + 630,114)$ . In 2020 the scope 1 + scope 2 (location based) emissions increased of 757,495 tons. Scope 1 + Scope 2 in 2020: $8,549,459 = 7,977,232 + 572,227$ . See C6.1 and C6.3. Scope 1 + Scope 2 in 2019: $7,791,964 = 7,161,850 + 630,114$ . See C6.1 and C6.3. Out of a difference of 757,495: A) 13,313 is a reduction related to Change in renewable energy consumption B) 8,700 is a reduction related to Other emissions reduction activities C) 1,500 is a reduction related to Divestment D) 818,757 is an increasing related to Change in output E) 37,749 is a reduction related to other. Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. $D - A - B - C - E = 757,459$ . So D less A, B, C and E explain the difference between 2020 and 2019.
Acquisitions	0	No change	0	In 2020, there was not any acquisitions
Mergers	0	No change	0	In 2020, there was not any merger
Change in output	818757	Increased	10.51	In 2020, comparing 2019, the clinker production increased of 877,741 ton. Multiplying this amount with average emission factor of Cementir in 2020 (0.9328 as reported in the question CE6.11), this increase in the production of clinker generated an increase in CO2 of 818,757. The emission value (percentage) is 10.51 because we divided the change in emission per the total Scope 1 and Scope 2 (Location based) of the previous year, as reported in C6.1 and C6.3. $10.51\% = 818,757 / (7,161,850 + 630,114)$ . In 2020 the scope 1 + scope 2 (location based) emissions increased of 757,495 tons. Scope 1 + Scope 2 in 2020: $8,549,459 = 7,977,232 + 572,227$ . See C6.1 and C6.3. Scope 1 + Scope 2 in 2019: $7,791,964 = 7,161,850 + 630,114$ . See C6.1 and C6.3. Out of a difference of 757,495: A) 13,313 is a reduction related to Change in renewable energy consumption B) 8,700 is a reduction related to Other emissions reduction activities C) 1,500 is a reduction related to Divestment D) 818,757 is an increasing related to Change in output E) 37,749 is a reduction related to other. Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. $D - A - B - C - E = 757,459$ . So D less A, B, C and E explain the difference between 2020 and 2019.
Change in methodology	0	No change	0	In 2020, there was not any change in methodology
Change in boundary	0	No change	0	In 2020, there was not any change in boundary
Change in physical operating conditions	0	No change	0	In 2020, there was not any change in physical operating conditions
Unidentified	0	No change	0	there was not any unidentified changes
Other	37749	Decreased	0.48	Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. The emission value (percentage) is 0.48 because we divided the change in emission per the total Scope 1 and Scope 2 (Location based) of the previous year, as reported in C6.1 and C6.3. $0.48\% = 37,749 / (7,161,850 + 630,114)$ . In 2020 the scope 1 + scope 2 (location based) emissions increased of 757,495 tons. Scope 1 + Scope 2 in 2020: $8,549,459 = 7,977,232 + 572,227$ . See C6.1 and C6.3. Scope 1 + Scope 2 in 2019: $7,791,964 = 7,161,850 + 630,114$ . See C6.1 and C6.3. Out of a difference of 757,495: A) 13,313 is a reduction related to Change in renewable energy consumption B) 8,700 is a reduction related to Other emissions reduction activities C) 1,500 is a reduction related to Divestment D) 818,757 is an increasing related to Change in output E) 37,749 is a reduction related to other. Difference that is not allocated to any specific reason because related to inherent interdependencies between various different levers. $D - A - B - C - E = 757,459$ . So D less A, B, C and E explain the difference between 2020 and 2019.

**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 15% but less than or equal to 20%

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	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 (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	903597	9868881	10772478
Consumption of purchased or acquired electricity	<Not Applicable>	310015	1025704	1335719
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>	1213612	10894585	12108197

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)	10636225
Consumption of purchased or acquired electricity	<Not Applicable>	1266674
Consumption of other purchased or acquired energy (heat, steam and/or cooling)	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	11902899

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	No
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)**

Coal

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

1578401

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.09537

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for coal used for the cement production. Coal is used only for the production of cement.

---

**Fuels (excluding feedstocks)**

Petroleum Coke

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

5597924

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.0928

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for petcoke used for the cement production. Petcoke is used only for the production of cement.

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 1

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

108572

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.0766

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the

---

operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for fuel oil used for the cement production and ready mix concrete business.

---

**Fuels (excluding feedstocks)**

Lignite Coal

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

854102

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.10146

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for lignite used for the cement production.

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

498762

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.056

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

The emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for Natural Gas used for cement production and concrete precast (consumption for concrete precast is a very limited part of the total)

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

65285

---

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.0741

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

The emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for diesel consumption in ready mix concrete companies of the Group

---

**Fuels (excluding feedstocks)**

Waste Oils

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

44743

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.097

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor for waste oils used for the cement production.

---

**Fuels (excluding feedstocks)**

Plastics

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

16212

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**



0.081

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for rubber and plastics used for cement production.

---

**Fuels (excluding feedstocks)**

Tires

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

187187

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.104

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for tires used for cement production.

---

**Fuels (excluding feedstocks)**

Animal/Bone Meal

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

329791

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.089

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for Meat and Bone meal used for cement production

---

**Fuels (excluding feedstocks)**

Other, please specify (Paper/cardboard/wood)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

37035

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.182

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for paper/cardboard/wood used for cement production

---

**Fuels (excluding feedstocks)**

Other, please specify (Refuse-derived fuel)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

1329959

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.091

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for RDF (Refuse-derived fuel) used for cement production

---

**Fuels (excluding feedstocks)**

Vegetable Oil

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

11627

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

<Not Applicable>

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

<Not Applicable>

---

**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>

**Emission factor**

0.11

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for sunflower oil used for cement production.

---

**Fuels (excluding feedstocks)**

Other, please specify (other residual fuels used (mainly dry sewage sludge))

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

42353

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

<Not Applicable>

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

<Not Applicable>

**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>

**Emission factor**

0.11

**Unit**

metric tons CO2 per GJ

**Emissions factor source**

For the european operations, the emission factors applied are coming from analyzes performed by accredited laboratories according to the european legislation. For the operations outside europe, the emission factor source is the Cement CO2 and Energy Protocol issued by the Global Cement and Concrete Association (GCCA) / ECRA GmbH.

**Comment**

Weighted average emission factor (without biomass) for all other fuels (mainly Dry Sewage Sludge in the cement production) used in the Group

---

**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)**

Coal

**Heating value**

LHV

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

1578401

**MWh fuel consumed at the kiln**

1578401

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Petroleum Coke

**Heating value**

LHV

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

5597924

**MWh fuel consumed at the kiln**

5597924

**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**

<Not Applicable>

**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**

854102

**MWh fuel consumed at the kiln**

854102

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

LHV

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

54

**MWh fuel consumed at the kiln**

0

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

54

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

<Not Applicable>

**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**

497080

**MWh fuel consumed at the kiln**

497080

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Other, please specify (District Heating)

**Heating value**

LHV

---

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

7329

**MWh fuel consumed at the kiln**

0

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

7329

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

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Waste Oils

**Heating value**

LHV

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

44743

**MWh fuel consumed at the kiln**

44743

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Plastics

**Heating value**

LHV

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

16212

**MWh fuel consumed at the kiln**

16212

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Tires

**Heating value**

LHV

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

187187

**MWh fuel consumed at the kiln**

187187

**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**

<Not Applicable>

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

<Not Applicable>

---

**Fuels (excluding feedstocks)**

Other, please specify (Paper/cardboard/wood)

**Heating value**

LHV

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

37035

**MWh fuel consumed at the kiln**

37035

---

**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**  
<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**  
<Not Applicable>

---

**Fuels (excluding feedstocks)**  
Animal/Bone Meal

**Heating value**  
LHV

**Total MWh fuel consumed for cement production activities**  
329791

**MWh fuel consumed at the kiln**  
329791

**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**  
<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**  
<Not Applicable>

---

**Fuels (excluding feedstocks)**  
Other, please specify (Refuse-derived fuel)

**Heating value**  
LHV

**Total MWh fuel consumed for cement production activities**  
1329959

**MWh fuel consumed at the kiln**  
1329959

**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**  
<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**  
<Not Applicable>

---

**Fuels (excluding feedstocks)**  
Vegetable Oil

**Heating value**  
LHV

**Total MWh fuel consumed for cement production activities**  
11627

**MWh fuel consumed at the kiln**  
11627

**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**  
<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**  
<Not Applicable>

---

**Fuels (excluding feedstocks)**  
Fuel Oil Number 1

**Heating value**  
LHV

**Total MWh fuel consumed for cement production activities**  
102351

**MWh fuel consumed at the kiln**  
79372

**MWh fuel consumed for the generation of heat that is not used in the kiln**  
22979

**MWh fuel consumed for the self-generation of electricity**  
<Not Applicable>

---

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

&lt;Not Applicable&gt;

**Fuels (excluding feedstocks)**

Other, please specify (other residual fuels used (mainly dry sewage sludge))

**Heating value**

LHV

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

42353

**MWh fuel consumed at the kiln**

42353

**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**

&lt;Not Applicable&gt;

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

&lt;Not Applicable&gt;

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	0	0	0	0
Heat	496554	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

**C-CE8.2d****(C-CE8.2d) 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	0	0
Heat	496554	0
Steam	0	0

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

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Biomass

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

Denmark

**MWh consumed accounted for at a zero emission factor**

3378

**Comment****Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Solar

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

Denmark

**MWh consumed accounted for at a zero emission factor**

2973

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Geothermal

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

Denmark

**MWh consumed accounted for at a zero emission factor**

34

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Wind

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

Denmark

**MWh consumed accounted for at a zero emission factor**

4290

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Hydropower

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

Denmark

**MWh consumed accounted for at a zero emission factor**

1926

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Nuclear

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

Denmark

**MWh consumed accounted for at a zero emission factor**

108342

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Biomass

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

Norway

**MWh consumed accounted for at a zero emission factor**

71

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Solar

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

Norway

**MWh consumed accounted for at a zero emission factor**

98

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

---



**Low-carbon technology type**

Geothermal

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

Norway

**MWh consumed accounted for at a zero emission factor**

1

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Wind

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

Norway

**MWh consumed accounted for at a zero emission factor**

117

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Hydropower

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

Norway

**MWh consumed accounted for at a zero emission factor**

199

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Nuclear

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

Norway

**MWh consumed accounted for at a zero emission factor**

2968

**Comment**

---

**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Biomass

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

Belgium

**MWh consumed accounted for at a zero emission factor**

5881

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Solar

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

Belgium

**MWh consumed accounted for at a zero emission factor**

21068

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Geothermal

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

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Belgium

**MWh consumed accounted for at a zero emission factor**

322

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Wind

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

Belgium

**MWh consumed accounted for at a zero emission factor**

4214

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Hydropower

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

Belgium

**MWh consumed accounted for at a zero emission factor**

2399

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Nuclear

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

Belgium

**MWh consumed accounted for at a zero emission factor**

146302

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Nuclear

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

Sweden

**MWh consumed accounted for at a zero emission factor**

8682

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Other, please specify (Biomass and Hydro)

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

Sweden

**MWh consumed accounted for at a zero emission factor**

347

**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Nuclear

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

United Kingdom of Great Britain and Northern Ireland

**MWh consumed accounted for at a zero emission factor**

769

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**Comment**

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**Sourcing method**

Other, please specify (information provided by the Suppliers and residual European Residual Mixes 2019 (AIB))

**Low-carbon technology type**

Other, please specify (Solar and Wind)

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

United Kingdom of Great Britain and Northern Ireland

**MWh consumed accounted for at a zero emission factor**

80

**Comment**

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**Sourcing method**

Other, please specify (Grid mix of renewable electricity)

**Low-carbon technology type**

Other, please specify (Biomass, Solar, Wind, Geothermal, Hydro and Nuclear )

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

United States of America

**MWh consumed accounted for at a zero emission factor**

18124

**Comment**

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**Sourcing method**

Other, please specify (Grid mix of renewable electricity)

**Low-carbon technology type**

Other, please specify (Biomass, Solar, Wind, Geothermal, Hydro)

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

Turkey

**MWh consumed accounted for at a zero emission factor**

196956

**Comment**

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**Sourcing method**

Other, please specify (Grid mix of renewable electricity)

**Low-carbon technology type**

Other, please specify (Biomass, Solar, Wind, Geothermal, Hydro)

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

China

**MWh consumed accounted for at a zero emission factor**

28505

**Comment**

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**Sourcing method**

Other, please specify (Grid mix of renewable electricity)

**Low-carbon technology type**

Other, please specify (Solar, wind, Hydro, biomass and geothermal)

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

Malaysia

**MWh consumed accounted for at a zero emission factor**

1575

**Comment**

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**Sourcing method**

Other, please specify (Grid mix of renewable electricity)

**Low-carbon technology type**

Other, please specify (Solar, wind, Hydro, biomass and geothermal)

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

Egypt

**MWh consumed accounted for at a zero emission factor**

26993

**Comment**

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C9. Additional metrics

C9.1

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

**Description**  
Energy usage

**Metric value**  
19

**Metric numerator**  
Alternative fuel consumption for cement production

**Metric denominator (intensity metric only)**  
total fuel consumption for cement production

**% change from previous year**  
5

**Direction of change**  
Decreased

**Please explain**

Utilization of alternative fuels for thermal energy production in place of non-renewable fossil fuels. In 2020, 19% of the thermal energy needed in the cement production process was generated from alternative fuels. In 2019, the percentage was 20.0%. In 2020, due to the lockdowns imposed by countries where the plants are located, the Group faced a situation where alternative fuels were temporarily unavailable; the outbreak also led to difficulties in sourcing alternative fuels and the need to reorganise the timing of related investments, therefore last year the replacement rate of fossil fuels slightly decreased compared to 2019. By 2030, the Group will increase the proportion of alternative fuels in the fuel mix to 77% to produce grey cement and 6% for white cement. The aforementioned targets have been differentiated per each plant and mid-term targets have been defined for 2022, 2025 and 2030

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	The Cementir Group developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can allow over than 40% clinker replacement in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. From 2014-2019, Cementir participated, together with researcher institutions and a range of stakeholders and customers from the construction industry, in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. In this project, FUTURECEM™ was tested at full-scale in construction parts for infrastructure (two bridges) as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. Those demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. Between 2018 and 2020, Cementir performed a survey to explore and figure out the status of the 'green transition' in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. The goal of the survey was to understand the dynamics of the green transition and the role that FUTURECEM™ technology could play in the future. In March 2020, Bureau Veritas certified the compliance of FutureCEM™ with the requirements in cement standard (EN 197-1:2011). On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 Futurecem™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe.

C-CE9.6a

(C-CE9.6a) Provide details of your organization's low-carbon investments for cement production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Waste heat recovery	Small scale commercial deployment	≤20%		Since 1990, Aalborg Portland has delivered district heating to the Municipality of Aalborg. In order to produce cement, raw materials such as limestone and sand must be burned at temperatures of up to 1500°C. Due to this high temperature process, the Aalborg Portland cement factory has enormous supplies of excess heat. One of the main sources of waste heat is the flue gas streams from the white kilns. The solution to this energy loss was to implement a heat recovery system, in which the flue gasses from the five white kilns of Aalborg plant are utilized in heat exchanger installations to transfer the thermal energy from the flue gas to Aalborg's district heating network. The Aalborg plant recovers excess heat from cement production to provide district heating to local inhabitants. The recovered thermal energy is used to heat the homes of about 36,000 families. In 2019, Aalborg Portland delivered about 1.6 million GJ of energy to the Municipality of Aalborg. The annual CO2 savings related to this heat recovery system has been estimated in 150,000 ton. The calculation is based on the amount of CO2, that is not be emitted from the local coal-fired power station, because the total needs are partially covered by the heat coming from Aalborg plant. Basically, in this way, the energy that has already been produced during the cement production is recycled and delivered to the district heating so that the energy does not have to be produced twice. According to the engineering project developed by the Aalborg plant and the Municipality, Aalborg plant could improve the supply of energy of additional 0.6 TJ. The grey cement kiln of Aalborg Portland is currently not equipped with waste heat recovery. In the industrial Plan 2020-2022, we included the heat recovery project for the kiln n.87 in the Aalborg plant. This heat can be delivered to the district heating system (see 2.4a for details)
Low clinker cement	Large scale commercial deployment	≤20%		The Cementir Group developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can allow over than 40% clinker replacement in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. From 2014-2019, Cementir participated, together with researcher institutions and a range of stakeholders and customers from the construction industry, in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. In this project, FUTURECEM™ was tested at full-scale in construction parts for infrastructure (two bridges) as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. Those demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. Between 2018 and 2020, Cementir performed a survey to explore and figure out the status of the 'green transition' in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. The goal of the survey was to understand the dynamics of the green transition and the role that FUTURECEM™ technology could play in the future. In March 2020, Bureau Veritas certified the compliance of FutureCEM™ with the requirements in cement standard (EN 197-1:2011) On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of about 1 million ton of FUTURECEM™. Starting from 2023, the annual production is expected to grow year by year. According to current estimates, by 2030 FutureCEM™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe.
Carbon capture, utilization and storage (CCUS)	Pilot demonstration	≤20%		Cementir through its Danish subsidiary Aalborg Portland is participating in an international consortium led by New Energy Coalition and the University of Groningen that will develop a European innovation project named "ConsenCUS – CarbOn Neutral cluSters through Electricity-based iNnovations in Capture, Utilisation and Storage". The objective of this project is to investigate the potential of the carbon capture and storage technology to reduce CO2 industrial emissions and to allow local communities to share the benefits. Industrial and academic partners from The Netherlands, Denmark, United Kingdom, Romania, Greece, China and Canada have joined forces to make electrochemical CO2 emission reduction possible worldwide. From April 1st, 2021, over €13 million of European funds and private investments will enable scaling up technological innovations and conducting socio-economic research. A mobile demo plant will be constructed that will capture up to 100 Kg CO2/h at cement production and convert it to useful chemicals (potassium formate and formic acid). In the same locations, the opportunities or challenges that the CO2 clusters bring to the local economy, geology and community will be studied. Cementir's role Within ConsenCUS, Cementir will operate a CO2-capturing test-facility to provide reference data for the new capturing technology. Cementir is responsible for preparing, supporting and testing of the capturing facility for 5 months. International cooperation for an international challenge Several crucial European industrial sectors emit CO2 as an inherent part of their production process (e.g. cement, magnesita or refinery). To meet European climate targets, this CO2 will have to be captured and used or stored (known as CCUS). So far, CCUS only takes place in a few locations world-wide, and often uses additional fossil fuels for the boilers that regenerate the CO2-absorbing material. The ConsenCUS consortium wants to make capture and conversion possible with (green) electricity, so that it can be done more sustainably and even climate-neutral. The innovation action includes designing so-called CO2 clusters, such that regional companies can work together with governments and citizens to make smart investments in shared infrastructure (such as pipelines or temporary storage locations) to reach net-zero carbon emissions safely.

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

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

**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**

Cementir Holding Sustainability Report 2020.pdf  
Cementir Holding NV\_Opinion SR 2020\_ENG.pdf

**Page/ section reference**

Limited assurance from external Auditor (PricewaterhouseCoopers) on the 2020 Sustainability Report. See pag. 114 of Sustainability Report for the Scope 1 emissions. See pag. 138 of Sustainability Report (Independent Auditor's Report on the Consolidated Non-Financial Statement). The Sustainability Report and related assurance is also available on Corporate Website <https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf>

**Relevant standard**

ISAE3000

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

100

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**C10.1b**

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

**Scope 2 approach**

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**

Cementir Holding Sustainability Report 2020.pdf  
Cementir Holding NV\_Opinion SR 2020\_ENG.pdf

**Page/ section reference**

Limited assurance from external Auditor (PricewaterhouseCoopers) on the 2020 Sustainability Report. See pag. 114 for the Scope 2 emissions (location based). See pag 138 of Sustainability Report (Independent Auditor's Report on the Consolidated Non-Financial Statement). The Sustainability Report and related assurance is also available on Corporate Website <https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf>

**Relevant standard**

ISAE3000

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

100

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**C10.1c**

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

**Scope 3 category**

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

**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**

Cementir Holding NV-Relazione emissioni Scope 3-0.3.pdf

**Page/section reference**

Limited assurance from external Auditor (PricewaterhouseCoopers) on the total Scope 3 emissions reported in C6.5 (see attachment). The scope 3 were not reported in the Sustainability Report, so a separate assurance was performed. 685,221 ton CO<sub>2</sub> - Purchased goods and services 44,293 ton CO<sub>2</sub> - Capital goods 1,560,067 ton CO<sub>2</sub> - Fuel and energy 211,197 ton CO<sub>2</sub> -Upstream transportation 227,743 ton CO<sub>2</sub> - Waste generated 1,481 ton CO<sub>2</sub> - Business Travel 211,197 ton CO<sub>2</sub>- Downstream transportation

**Relevant standard**

ISAE3000

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

100

**C10.2**

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

Yes

**C10.2a**

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISAE3000	All the energy consumptions (fossil fuels, alternative fuels, electricity) have been certified by the external auditor PWC. See pag 138 of Sustainability Report (Independent Auditor's Report on the Consolidated Non-Financial Statement). The Sustainability Report and related assurance is also available on Corporate Website <a href="https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf">https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf</a> Cementir Holding Sustainability Report 2020.pdf Cementir Holding NV_Opinion SR 2020_ENG.pdf
C9. Additional metrics	Other, please specify (Fossil fuel replacement index: Utilization of alternative fuels for thermal energy production in place of non-renewable fossil fuels.)	ISAE3000	The fossil fuel replacement index reported in section C9. Additional metrics has been certified by the external auditor PWC. See pag 62 (Fossil fuel replacement index) and 138 of Sustainability Report (Independent Auditor's Report on the Consolidated Non-Financial Statement). The Sustainability Report and related assurance is also available on Corporate Website <a href="https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf">https://www.cementirholding.com/sites/default/files/documenti/2021-04/Cementir%20Holding%20Sustainability%20Report%202020.pdf</a> Cementir Holding Sustainability Report 2020.pdf Cementir Holding NV_Opinion SR 2020_ENG.pdf

**C11. Carbon pricing**

**C11.1**

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

Yes

**C11.1a**

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

EU ETS

**C11.1b**

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

**EU ETS**

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

43

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1 2020

**Period end date**

December 31 2020

**Allowances allocated**

2890751

**Allowances purchased**

0

**Verified Scope 1 emissions in metric tons CO<sub>2</sub>e**

3437407

**Verified Scope 2 emissions in metric tons CO<sub>2</sub>e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

The only carbon pricing regulation which impacts on Cementir operations is the EU ETS.

C11.1d

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

**Description of the strategy for complying with the systems in which Cementir participates**

Cementir defined a 10 roadmap to reduce its scope 1 and 2 emissions according to the reductions required to keep warming to Well-below 2°C. In particular, Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious materials by 2030 from a 2020 base year. In July 2021, the Science-Based Targets initiative (SBTi) validated the targets.

Specific targets for alternative fuels, clinker ratio and CO<sub>2</sub> emissions have been established in order to accomplish the 2030 goals.

Such targets have been deployed in every single plant and per year and were included in the Industrial Plan 2021-2023 and in our employee short-term incentive system.

the 10 roadmap is focused on the following pillars:

**Reduction of clinker content.** Cementir will reduce the clinker content through:

- The replacement of clinker with alternative decarbonised mineral additives such as fly ash and slag. –
- The development of a new low-carbon cement, FUTURECEM™, an innovative, validated and patented technology which allows for more than 35% of the energy-intensive clinker in cement to be replaced by limestone and calcined clay. This combination of materials in FUTURECEM™ has resulted in a much more sustainable, high[1]grade cement with a carbon footprint up to 30% lower than regular Portland cement.

**Replacement of fossil fuels with alternative fuels.**

**Energy recovery.** The Aalborg plant recovers excess heat from cement production to provide district heating to local inhabitants. The recovered thermal energy is used to heat the homes of about 36,000 families in the city of Aalborg, Denmark. The annual CO<sub>2</sub> savings related to this heat recovery system has been estimated at 150,000 tons

**Commitment to carbon-related public policy.** Cementir actively participates in global and national industry policy discussions on issues related to climate change.

**A description of the strategy for complying with the system in which you anticipate to participate in, and identification of when you anticipate being regulated in the next 3 years.**

In Europe we are managing closely the transition to the phase 4 of the new European Trading System which come into force in 2021, bringing more strict CO<sub>2</sub> free credit.

Detailed 10 year decarbonization roadmap have been defined for the European plants.

The initiative planned for the European plant are aligned with our global strategy and will be focused on:

Development of FUTURECEM to decrease the clinker content. On January 2021, our Danish plant of Aalborg started the distribution of FUTURECEM

Replacement of fossil fuels with alternative fuels. In 2021-2023, we planned the upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80%.

In China, where Cementir has a cement plant, a National ETS will be activated from the mid-year of 2021 only for the power industry (cement sector will be included in the future). The technical department is closely monitoring and modeling what could be the impact for our plant . A Detailed 10 year decarbonization roadmap have been defined for the Chinese plant, aligned with our global strategy. In 2020, the CO<sub>2</sub> emissions of the plant have been lower than EU ETS benchmark.

**An example of how we have applied our strategy**

In the 10 year Roadmap, the Group planned the main investment needed until 2030, out of which 107 million declared in the Industrial Plan 2021-2023, approved by the Cementir Board of Director in February 2021.

In the 2021-2023, the major investments will be related to:

- *Upgrade of the kiln in the Belgian plant to increase alternative fuel use from the current 40% to 80%.* Once completed, this investment will guarantee a CO<sub>2</sub> reduction of about 88,000 tons annually.
- *Construction of a new calcination plant aimed at the production of FUTURECEM™.* As already mentioned, through FUTURECEM™ technology, the clinker in cement will be partially replaced by limestone and calcined clay. The creation of a plant for the calcination of clay will support the shifting of our product portfolio from tradition Portland cement to low carbon cement (FUTURECEM™).
- *Installation of two wind turbine generators in the Aalborg plant.* The energy produced will be used by the plant.
- *The establishment of a natural gas line to the plant located in Denmark* and the installation of multi-fuel main burners for the kilns. For the Danish plant, we plan a partial conversion of fuel consumption from pet coke to natural gas. The switching to natural gas, a fossil fuel with emissions much lower than pet coke (estimated reduction of 20% of CO<sub>2</sub>), is a transitional solution and indispensable for Cementir's transition to net-zero emissions. As part of this strategy, the Aalborg plant) has entered into an agreement with the Danish gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022.

**C11.2**

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

No

## 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

#### GHG Scope

Scope 1

#### Application

We apply an internal carbon price to navigate GHG regulations such as the EU ETS. In countries subject to an emissions trading systems such as the EU member states, we run various scenarios with different prices to anticipate the CO2 cost we will be exposed to in the 4th trading period until 2030.

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

50

#### Variance of price(s) used

We apply an uniform pricing. The same price (50 EUR) is applied throughout the Group independent of geography, business unit, or type of decision

#### Type of internal carbon price

Shadow price  
Internal fee

#### Impact & implication

Situation: Climate action is at the heart of the European Green Deal and EU Taxonomy, an ambitious European package of measures for cutting greenhouse gas emissions. Climate change is thus reshaping the cement sector. Climate change is thus reshaping the cement sector. For this reason, in the last years, Cementir focused its R&D on low carbon products (FUTURECEM™, as described in "C.3.3 Products and services") or other project able to reduce CO2 emissions of the production process. Task: develop project in order to replace fossil fuels with alternative fuels for reducing the CO2 emission related to the combustion of fuels for producing clinker. Cement production is a thermal energy intensive process, which requires heating raw materials up to 1450°C and cooling it down. Limestone and clay are heated to approximately 1,450 degrees Celsius in rotary kiln in order to produce clinker, semi-finished product. Action: following the feasibility study for addressing an opportunity for conversion from fossil fuels (i.e. petcoke or coal) to natural gas, Cementir planned the utilization of natural gas in Aalborg, our Danish plant. The switching to natural gas, a fossil fuel with emissions lower than petcoke (estimated reduction of 20% of CO<sub>2</sub>), is a transitional solution for Cementir's path to net-zero emissions. Results: Due to the reduction in CO2 emissions, Cementir will have to buy a minor number of CO2 quotas in EU ETS. This reduction in the CO2 quotas led to a positive financial impact that affect positively the business case evaluation (due to natural gas combustion, cementir will buy less CO2 quotas). Without the application of the carbon price, the mentioned investment will not have a positive NPV (net present value) and Cementir will not probably implemented it. Therefore, the capital expenditure would be allocated in a different way. As part of this project, in 2020, Aalborg plant has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The related investment for the utilization of natural gas in Aalborg has been included in the 2021-2023 industrial plan approved by the Board of Director. Following the implementation of the investment, a reduction of 20% of CO2 is estimated for the Aalborg plant.

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## C12. Engagement

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### C12.1

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

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

### C12.1a

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

**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Other, please specify (Monitor CO2 emissions of 55% of top Group suppliers (representing approx. 30% of the total purchases by value) through the CDP supply chain program)

**% of suppliers by number**

55

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

30

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

3

**Rationale for the coverage of your engagement**

Cutting our CO2 emissions is a priority of Cementir Group, but clearly, we cannot achieve a carbon neutral future alone. For this reason, we decided to engage with the various partner of our value chain (supplier, customers, competitors, policy maker) in order to promote the development of a sustainable cement business. For example, we decided to investigate the CO2 emissions of our suppliers in order to understand how to reduce them and how to develop mutually beneficial projects (for Cementir and the Suppliers). Rationale for the coverage: We decided to focus the engagement on the Top Group Suppliers, the suppliers evaluated as strategic by the Group because they provide strategic raw materials and services. For this reason, the 55% of Top Group suppliers ( 55 suppliers equal to the 30% of the total purchases by value ) were invited to participate in the CDP Supply Chain program. To support this engagement and boost supplier response rates, dedicated supplier training webinars were held. This training aims to communicate the importance and benefits from transparently reporting on emissions and climate impact. Each Supplier has been invited to disclose information about its risks and opportunities associated with climate change, its emissions, details on its emissions management strategy such as targets, and actions it has taken to reduce its emissions.

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

Cementir started the mentioned project in 2020. In absence of previous data, for the first year, we consider a good threshold of success, receiving information from at least the 20% of the suppliers involved. As forward looking target, we planned to increase the rate of supplier response over 50%, in the next two years (2021-2022). Impact: According to the information collected Cementir will: - Monitor the scope 3 emission of its supply chain - Monitor the action undertaken by the supplier to manage the climate change risk - Spreading awareness of suppliers on climate change. - understand where to prioritize reductions in the value chain in line with science based guidelines. In 2020, the 24% of the Suppliers involved provided their environmental information through CDP Supply Chain program. Cementir used this information for the calculation of the Scope 3 emissions related to "Purchased goods and services", as reported in C6.5. Following this results, Cementir decided to repeat the activity in 2021.

**Comment**

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**C12.1b**

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

**Type of engagement**

Collaboration & innovation

**Details of engagement**

Other, please specify (Development and testing of a low carbone cement (FUTURECEM™))

**% of customers by number**

1

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

0

**Portfolio coverage (total or outstanding)**

<Not Applicable>

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

The Cementir Group developed a new type of cement (FUTURECEM™) responsible for fewer CO2 emissions (from 30% to 50% lower CO2 content). FUTURECEM™ is a patented technology based on limestone and calcinated clay, developed by the Group. The combination of limestone and calcinated clay in FUTURECEM™ can replace a significant quantity of clinker in cement. Clinker is an interim product that is produced at high temperatures in cement kilns. Hence, replacing clinker with the combination of limestone and calcinated clay means significant reductions in CO2. From 2014-2019, the Cementir Group, participated together with researcher institutions and a range of stakeholders and Customers from construction industry in the Danish project Green Concrete II with the aim of testing FUTURECEM™ in a wide range of actual ready-mix concrete applications. FUTURECEM™ has been developed by our R&D department located in Denmark, for this reason the group of customers selected were danish customers from construction industry. In this project, FUTURECEM™ has been tested at full-scale in construction parts for infrastructure (two bridges) as well as in an indoor floor and wall in the new concrete laboratory at the Danish Technological Institute. Those demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. Furthermore, similar performance as conventional concrete in terms of workability, strengths and other key parameters were achieved. In order to evaluate durability in aggressive environments, a number of long-term exposure sites have been established. Investigations at the Technical University of Denmark have shown that concrete based on FUTURECEM™ technology is resistant to corrosion by chloride from sea water or freeze-thaw salt as well, shows good carbonation resistance and resistance to alkali-silica reaction as well as no degradation by sulphate attack.

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

The demo projects demonstrate that FUTURECEM™ can be implemented in the concrete industry using conventional production and execution technologies. In March 2020, Bureau Veritas certified the first cement based on FUTURECEM™ in accordance to European cement standard EN 197-1:2011. On January 2021, Cementir started the distribution of FUTURECEM™. In the 2021-2023 period, the Group has planned the sale of almost 1 million ton of FUTURECEM™. According to current estimates, by 2030 Futurecem™ volumes sold are expected to reach around 51% of total volumes sold in Europe (grey plus white cement) and 60% of grey cement volumes sold in Europe. As reported in C2.4a, in the 2021-2023 period, the replacement of 1 million ton of the current grey portland cement with the production of 1 million ton of FUTURCEM could reduce the CO2 emission of our European plant of about 193,000 ton.

**Type of engagement**

Collaboration & innovation

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**Details of engagement**

Other, please specify (Implementation of a responsible sourcing certification system to promote and demonstrate that the concrete produced by our customers is a sustainable building material)

**% of customers by number**

25

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

0

**Portfolio coverage (total or outstanding)**

<Not Applicable>

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

Situation: Cement is the main component of concrete and concrete is the world's most widely used building material. In the last years, several governments, especially in North Europe, starting to promote the development of sustainable building materials and recognize the importance of label as Concrete Sustainability Council (CSC) certification in the procedures for the award of public works contracts. The CSC is a certification system for globally responsible sourcing. The CSC strives to generate a market pull for green concrete by promoting sustainable construction through their certified concrete. Concrete that is from a CSC certified cement plant is more sustainable because it meets the standards set for the following categories: reducing CO2 emission; fair business practices; enhancing biodiversity; excellence in occupational health & safety; moving towards circularity, using water in a responsible manner. For our customers located in specific European countries as the Netherlands and Belgium is becoming relevant to have supplier of cement certified as CSC in order to obtain public works contracts. Task: Cementir must investigate the importance of label as Concrete Sustainability Council (CSC) certification for the customers. Cementir must develop a roadmap for implementing the CSC certification for the cement plants. Action: Between 2018 and 2019, we perform a survey to explore and figure out the status of the green transition in in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. Rationale for selecting group of customers: Following the survey, Cementir understood that in Netherlands and Belgium is becoming relevant to have supplier of cement certified as CSC in order to obtain public works. Cementir committed to achieve the CSC certification for its Belgian plant because the Belgian plant is the plant that supplies customers in Belgium and Netherlands (the 25% of cement customers). Results: In 2020, Cementir started the certification process for its Belgian plant. In January 2021, the Belgian cement plant of Cementir Group has received Silver certification from CSC. A roadmap for implementing CSC in the other plants have been defined.

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

Between 2018 and 2019, we perform a survey to explore and figure out the status of the green transition in in North Europe (Scandinavia, France, Belgium, Netherlands), then how it will change the construction industry in the coming years and finally what a building materials manufacturer such as Cementir should do when it comes to sustainability. Following the survey, Cementir understood that in Netherlands and Belgium is becoming relevant to have supplier of cement certified as CSC in order to obtain public works contracts. Cementir committed to achieve the CSC certification for its Belgian plant. The Belgian plant is the plant that supply customers in Belgium and Netherlands (the 25% of cement customers). For this reason, the Belgian plant is the first for which Cementir decided to implement the CSC certification. Measures of success are: to implement CSC in Belgium plant first, and to develop a roadmap for implementing CSC in the other plants. Impact: the CSC validation process engaged in Belgium will be used as pilot for implementing the certification in the other plants. Results: In 2020, Cementir started the certification process for its Belgian plant. In January 2021, the Belgian cement plant of Cementir Group has received Silver certification from CSC. Following the certification process engaged in Belgium, Cementir starting to develop a roadmap for implementing CSC in the other plants. The roadmap will be finalized by the end of 2021.

**Type of engagement**

Other, please specify (Recovery of heat from kiln to deliver district heating to Aalborg Municipality)

**Details of engagement**

Other, please specify (Since 1990, Aalborg Portland recovers waste heat from the kiln to deliver district heating to the Municipality. In 2020, we delivered about 1.8 million GJ of recovered energy.)

**% of customers by number**

1

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

0

**Portfolio coverage (total or outstanding)**

<Not Applicable>

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

In order to implement the heat recovery system, the Aalborg plant had to establish a long-standing cooperation with Aalborg Forsyning, the company in charge for the Aalborg District Heating. In 2020, Aalborg Portland delivered about 1.8 million GJ of recovered energy to the Municipality of Aalborg. According to the engineering project developed by the Aalborg plant and the Municipality, Aalborg plant could improve the supply of energy of additional 1 TJ.

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

Since 1990, Aalborg Portland has delivered district heating to the Municipality of Aalborg. In order to produce cement, raw materials such as limestone and sand must be burned at temperatures of up to 1500°C. Due to this high temperature process, the Aalborg Portland cement factory has enormous supplies of excess heat. One of the main sources of waste heat is the flue gas streams from the white kilns. The solution to this energy loss was to implement a heat recovery system, in which the flue gasses from the five white kilns of Aalborg plant are utilized in heat exchanger installations to transfer the thermal energy from the flue gas to Aalborg's district heating network. The Aalborg plant recovers excess heat from cement production to provide district heating to local inhabitants. The recovered thermal energy is used to heat the homes of about 36,000 families. In 2020, Aalborg Portland delivered about 1.8 million GJ of energy to the Municipality of Aalborg. The annual CO2 savings related to this heat recovery system has been estimated in 150,000 ton. The calculation is based on the amount of CO2, that is not emitted from the local coal-fired power station, because the total needs are partially covered by the heat coming from Aalborg plant. Basically, in this way, the energy that has already been produced during the cement production is recycled and delivered to the district heating so that the energy does not have to be produced twice. According to the engineering project developed by the Aalborg plant and the Municipality, Aalborg plant could improve the supply of energy of additional 1 TJ. As of July 2020, only the kilns reserved for the production of white cement are equipped to recover heat and deliver it to the district heating. The kiln reserved for the production of grey cement is not equipped with waste heat recovery, but the installation of the equipment is possible.

**Type of engagement**

Education/information sharing

**Details of engagement**

Share information about your products and relevant certification schemes (i.e. Energy STAR)

**% of customers by number**

25

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

0

#### Portfolio coverage (total or outstanding)

<Not Applicable>

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

The cement and concrete business is characterized by a high impact in terms of emissions. For this reason, it is important that all the actions that the Group is undertaking in order to limit the impact on the environment and reduce the emission level, are well communicated to the stakeholders and that the stakeholders expectations regarding the Group are well analyzed. The risk of being perceived as a large carbon emitter could reduce our attractiveness to stakeholders such as customers, investors, and potential employees. For this reason a transparent communication about environmental impact of our product must be implemented. An Environmental Product Declaration (EPD) is a standardized document informing about a product's potential environmental and human health impact. In particular, the EPD is the report that communicates what the product is made of and how it impacts the environment across its entire life cycle. The EPD provides information about the potential environmental impact of the product, that are, among other, the global warming potential, the ozone depletion potential and the acidification potential. All products sold by Aalborg Portland (the Danish subsidiary of Cementir) are supported by the Environmental Product Declarations (EPD). Rationale for selecting this group of Customers: Cementir decided to adopt the EDP for all product sold by Aalborg Portland (AP) because AP is the most important business unit in term of turnover. It accounts for the 25% of the Group Revenues. We started to develop EPD using turnover as rationale for selecting the group of Customers.

#### Impact of engagement, including measures of success

The cement and concrete business is characterized by a high impact in terms of emissions. For this reason, it is important that all the actions that the Group is undertaking in order to limit the impact on the environment and reduce the emission level, are well communicated to the stakeholders and that the stakeholders expectations regarding the Group are well analyzed. The risk of being perceived as a large carbon emitter could reduce our attractiveness to stakeholders such as customers, investors, and potential employees. An Environmental Product Declaration (EPD) is a standardized document informing about a product's potential environmental and human health impact. The EPD is the report that communicates what the product is made of and how it impacts the environment across its entire life cycle. The EPD provides information about the potential environmental impact of the product, that are, among other, the global warming potential, the ozone depletion potential and the acidification potential. Measures of Success: All products sold by Aalborg Portland (the Danish subsidiary of Cementir) are supported by the Environmental Product Declarations (EPD). Cementir Group is developing the EDP for the product sold by Belgium region, the second most important in term of turnover. Once the EDP for Belgium products will be finalized, the 50% of the total turnover will be covered by EDP. The goal is to inform our Customers and made them aware about the environmental impact of the products and push all competitors to declare this kind of information about the products sold.

## C12.1d

### (C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

Cutting our CO2 emissions is a priority of Cementir Group, but clearly, we cannot achieve a carbon neutral future alone. For this reason, Cementir actively participates in global and national industry policy discussions on issues related to Climate Change, Sustainable Infrastructure, Innovation & Digital Transformation, The other partners in the value chain involved are: Competitors, Research Academy and other international organization actively involve in the building of a sustainable economy (i.e. CDP), local communities.

For example:

- Cementir through its Danish subsidiary Aalborg Portland is participating in an international consortium that will develop a European innovation project named "ConsenCUS – CarbOn Neutral cluSters through Electricity-based iNnovations in Capture, Utilisation and Storage".

The objective of this project is to investigate the potential of the carbon capture and storage technology to reduce CO2 industrial emissions and to allow local communities to share the benefits.

From April 1st, 2021, over €13 million of European funds and private investments will enable scaling up technological innovations and conducting socio-economic research. A mobile demo plant will be constructed that will capture up to 100 Kg CO2/h at cement production and convert it to useful chemicals (potassium formate and formic acid). In the same locations, the opportunities or challenges that the CO2 clusters bring to the local economy, geology and community will be studied.

Within ConsenCUS, Cementir will operate a CO2-capturing test-facility to provide reference data for the new capturing technology. Cementir is responsible for preparing, supporting and testing of the capturing facility for 5 months.

- Cementir is a member of the Global Cement and Concrete Association (GCCA), with the aim of fostering innovation and collaboration with industry associations and inspiring architects, engineers and innovators across the globe and along the length of the built environment value chain. Through the GCCA, in 2019, Cementir joined Innovandi, a network connecting cement industry and scientific institutions to drive new ways of working and innovations. Through the GCCA, Cementir aims to document and improve the sustainability performance of the global cement and concrete sectors. To help achieve this objective, as GCCA's Full Member, Cementir is required to: • Set targets for the five pillars of the GCCA Sustainability Charter (Climate Change and Energy, Health & Safety, Circular Economy, Social Responsibilities, Environment and Nature) • Publish company level sustainability performance • Report standardised plant level sustainability data to the GCCA through an external service provider • Encourage the implementation of the pillars of the Charter across the value chain.

- Cementir is also member of the European Cement Research Academy (ECRA). Cementir R&D Director in the Technical Advisory Board of ECRA. ECRA's most important research projects are related to the carbon capture and storage (CCS) technology. The goal of the project is to examine the technical and economic feasibility of this technology as a potential application in the cement industry. Cementir lays strong emphasis on the global perspective of this research and also on sustainability. This implies that not only CO2 emissions as such, but also the huge energy demand for operating CCS plants will be taken into account. ECRA's CCS project comprises five phases. Phases I, II and III have been completed and phase IV is currently underway, in which the possibility of initiating an industrial-scale oxyfuel kiln is being examined. Cementir is involved in the periodical seminars and workshops arranged by ECRA to exchange views with people from different organization and countries. For example, in 2020 ECRA arranged seminars on the following topics: CO2 Value-Chains: Prerequisites for a Future CO2 Economy; The Future Composition of Cement and Concrete: Resources in a Material-Constrained World and State-of-the-Art Calciner Technology.

## C12.3

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

Direct engagement with policy makers

Trade associations

Other

## C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (Denmark's parliament adopted a new climate law to cut emissions 70% by 2030 (baseline 1990))	Support	In 2019, through Aalborg Portland, the Danish legal entity of Cemntir, the Group was involved in the most ambitious CO2 reduction project sponsored by a national government. In autumn 2019 the Danish government made a broad political agreement with the main political parties to define a binding climate law with the target of reducing Danish CO2 emissions by 70% by 2030, from a 1990 baseline. In December 2019, the Danish Prime Minister appointed the Managing Director of Aalborg Portland as head of the climate partnership for energy-intensive industry in Denmark. This climate partnership, led by Aalborg Portland and composed by the main refining, chemicals and food Danish companies, will provide the Danish government with the technical forecast of all potential CO2 reduction achievable and will define the prerequisites (policy, research, innovation, subsidies, etc.) for such reduction. Please note that Aalborg Portland operations generate about the 40% of Cemntir Revenues	The key policy recommendations are in progress. The climate partnership is working on: - Developing a Danish national strategy for carbon capture and subsidy a lighthouse project; - Liberalizing the market for heat recovery/district heating; - Ensuring affordable sustainable fuels (like biogas) - Supporting a market request for sustainable products (public procurement, building regulation etc.). In 2020, Aalborg Portland committed to a CO2 reduction target of 30% by 2030 (an annual saving of 660,000 tons of CO2 in 2030 compared to current emissions). As part of this strategy, Aalborg Portland has entered into an agreement with the state gas distribution company, Evida, to connect the plant to the gas distribution grid on 1 April 2022. The switching to natural gas, a fossil fuel with missions lower than petcoke (estimated reduction of 20% of CO2), is a transitional solution for Cemntir's path to net-zero emissions.

## 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

The European Cement Association (CEMBUREAU), the representative organisation of the cement industry in Europe

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

Consistent

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

Cemntir is member of The European Cement Association (CEMBUREAU) the representative organisation of the cement industry in Europe. Cemntir is in the Board of the Association and in the Liaison Committee of the Cement industries in the European Union. It is also active member on several CEMBUREAU working groups focused on Climate Change and Energy. CEMBUREAU's Carbon Neutrality Roadmap sets out the cement industry's ambition to reach net zero emissions along the cement and concrete value chain by 2050. The Roadmap looks at how CO2 emissions can be reduced by acting at each stage of the value chain – clinker, cement, concrete, construction and (re)carbonation – to achieve zero net emissions by 2050. It quantifies the role of each technology in providing CO2 emissions savings, making concrete political and technical recommendations to support this objective. To get there, the sector will need decisive political action from the EU will be required in some key areas, including: the development of a pan-European CO2 transportation and storage network; decisive action on circular economy to support the use of non-recyclable waste and biomass waste in cement production; ambitious policies to reduce European building's CO2 footprint, based on a life-cycle approach, that incentivise the market uptake of low-carbon cements; a level playing field on carbon, regulatory certainty and an ambitious industrial transformation agenda.

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

Cemntir is member of The European Cement Association (CEMBUREAU) the representative organisation of the cement industry in Europe. Cemntir is in the Board of the Association and in the Liaison Committee of the Cement industries in the European Union. It is also active member on several CEMBUREAU working groups focused on Climate Change and Energy. For example, R&D Director of Cemntir is an active member of Task Force for EU taxonomy. The task force of Cembureau that developed the position of the association concerning EU taxonomy.

## C12.3e

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

The quarry excavated in Belgium are managed according to the "Life in Quarry Project". Operating a quarry leads to the creation of temporary or permanent environments which have become rare in Belgium, such as cliffs, rocky or sandy surfaces, landslides, temporary stretches of water, chalk grasslands or sparse meadows. These habitats, generated by mining activity, can be of considerable interest from an ecosystem point of view as they enable the appearance and development of populations of pioneer species with a high biological value. Quarries can play a fundamental role in regulating green infrastructure in landscapes. In particular, when they are located in areas near urban centres, they can constitute important green corridors that animal species can use as transition zones (especially in the case of migratory species). The objective of the Life in Quarries project is to develop a methodology that makes it possible to optimise the biodiversity hosting capacity of quarries in Belgium. The project aims to implement biodiversity management measures during quarrying through dynamic management, and to rehabilitate the quarry at the end of extraction in order to stabilise the habitat. The Life in Quarries project is funded by the European Commission.

## C12.3f

**(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

The Sustainability Committee is responsible for the coordination of all activities that influence policy. For this reason, the Sustainability Committee is responsible for the coordination of the participation of Cementir representatives in the various regional / global associations or public working groups.

For example, Cementir takes part in CEMBUREAU, the European Cement Association, the GCCA, the Global Cement and Concrete Association and the Climate Partnership promoted by the Danish Government to cut the CO2 emissions of Denmark of 70% by 2030.

Cementir representatives that actively participate to the mentioned associations or public working groups must engage in a way that reflects Cementir position, according to the instructions received by the Sustainability Committee.

All the activities engaged by Cementir representatives must be previously agreed with the Sustainability Committee.

In addition, the Committee is quarterly updated concerning the commitment of the mentioned associations or public working groups on public policy and concerning any relevant trend or upcoming legislation concerning climate change or water management.

In this way, the Committee can evaluate the consistency of the activities performed by the associations and working group with Cementir Sustainability Strategy.

In case, any major divergences with the mentioned associations or working groups should occur, Cementir will dissociate itself from the association and related activities. In extreme situation, Cementir will resign from the association or working group.

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

Cementir Holding Annual Report 2020.pdf

**Page/Section reference**

Pag. 27 - Non financial Indicators (please note that the Report was issued before the validation of the target from SBTi) Pag. 38 - INNOVATION, QUALITY, RESEARCH AND DEVELOPMENT Pag. 47 - RISKS AND UNCERTAINTIES Pag. 49 - MAIN RISKS TO WHICH THE GROUP IS EXPOSED

**Content elements**

Governance  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

Cementir publishes the 2020 Annual Report.

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**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

Cementir Holding Sustainability Report 2020.pdf

**Page/Section reference**

Pag. 12 - Sustainability Targets set by Cementir Pag. 41 - Our 2030 commitment in numbers (please note that the Report was issued before the validation of the target from SBTi) Pag. 42 - Our key actions and related investments for the 2021-2030 period Pag. 43 - Main investments to achieve CO2 reduction targets Pag. 45 - Our Vision for a net zero world Pag. 49 - The Sustainability Governance system in Cementir Pag. 70 - CO2 emissions Pag. 74 - Other air emissions (NOx, SOx, Dust)

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics  
Other, please specify (Green Investment planned in 2021 and 2023 Industrial Plan (pag. 43))

**Comment**

Cementir publishes an annual Sustainability Report. The Report is compliant with GRI Sustainability Reporting Standards, (In Accordance - Core" reporting option). A detailed overview of the indicators disclosed can be found in the GRI Content Index (included in the Report) which provides a detailed description of all the topics covered in the document. The Report was subjected to assurance by PricewaterhouseCoopers S.p.A.. In the Report, Cementir describes the 25 Sustainability Targets set by the Group. The targets are related to the effort of Cementir for adopting all necessary measures and the most innovative technological solutions to minimise the impact of our business on the environment; creating a healthy, safe and inclusive work environment; respecting human rights and creating a constructive and transparent relationship with the local communities and business partners. The 25 Sustainability Targets are aligned with the Sustainable Development Goals (SDGs) set by the United Nations General Assembly. For each target, we report 2030, 2025 and 2022 goals and 2020 actual status. Cementir defined a 10 year roadmap to maximise the deployment of existing technologies and laying the groundwork for the breakthrough innovations that will lead to the production of 'net zero emissions' A pivotal role in CO2 reduction will

be played by FUTURECEM™- our proprietary technology internally developed and worldwide patented – which allows over than 40% clinker replacement in cement. The targets have been defined by the Sustainability Team in collaboration with regional and corporate functions and according to the guidelines established by the Sustainability Committee and the UN Sustainable Development Goals (SDGs). The Group Management Team (GMT), is accountable for managing the projects and achieving the targets. The internal audit is responsible the periodic monitoring of the activities implemented in reference to the Group's sustainability strategy and its targets.

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**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

Update Industrial Plan 2021-2023 and preliminary results\_04 02 2021\_0.pdf

**Page/Section reference**

Pag. 9 - Cementir Strategy Pag. 11 - Our Sustainability journey since 2019 Pag. 12 - CO2 reduction by 2030 (please noted that this communication was issued before the validation of the target from SBTi) Pag. 13 - Main initiatives to achieve CO2 reduction targets Pag. 14 - Product innovation: Futurecem™

**Content elements**

Governance  
Strategy  
Emissions figures  
Emission targets

**Comment**

In February 2021, The Board of Director of Cementir approved the Industrial Plan for 2021 – 2023 period. The industrial plan describes the strategy of Cementir about Sustainability, the CO2 reduction target and the main initiatives and investments planned to achieve the mentioned targets. The industrial plan has been presented to the financial analysts. The presentation is also available in our corporate website. [https://www.cementirholding.com/sites/default/files/documenti/2021-02/Update%20Industrial%20Plan%202021-2023%20and%20preliminary%20results\\_04%2002%202021\\_0.pdf](https://www.cementirholding.com/sites/default/files/documenti/2021-02/Update%20Industrial%20Plan%202021-2023%20and%20preliminary%20results_04%2002%202021_0.pdf)

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**Publication**

Other, please specify (In July 2021, Cementir participated to the Italian Sustainability Week promoted by Borsa Italiana to public disclose its ESG Strategy)

**Status**

Complete

**Attach the document**

ESG Investor presentation\_Sustainability Week\_1 July 2021.pdf

**Page/Section reference**

ESG Strategy - pag. 8 and 9 Sustainability achievements and ratings - pag. 10 Emission figures - pag. 13 Main sustainability initiatives to 2030 - pag. 14 Capex: main initiatives for CO2 emissions reduction - pag. 16 Futurecem - pag. 18 and 19

**Content elements**

Governance  
Strategy  
Emission targets

**Comment**

In July 2021, Cementir participated to the Italian Sustainability Week promoted by Borsa Italiana to public disclose its ESG Strategy. We attached the presentation discussed during the event. the presentation is also available in our corporate website. [https://www.cementirholding.com/sites/default/files/documenti/2021-06/ESG%20Investor%20presentation\\_Sustainability%20Week\\_1%20July%202021.pdf](https://www.cementirholding.com/sites/default/files/documenti/2021-06/ESG%20Investor%20presentation_Sustainability%20Week_1%20July%202021.pdf)

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**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

CEME-ITA-001-OFF Certificate.pdf

**Page/Section reference**

Cementir commits to reduce scope 1 and scope 2 GHG emissions 25% per ton of cementitious products by 2030 from a 2020 base year. In July 2021, the Science-Based Targets initiative (SBTi) validated the target. Attached the certificate from SBTi and below the link to the press release <https://www.cementirholding.com/en/investors/press-releases/science-based-targets-initiative-validates-co2-emissions-reduction-targets>

**Content elements**

Emission targets

**Comment**

The Science Based Targets initiative (SBTi) has validated Cementir's CO2 emission reduction targets, judged to be consistent with the "well below 2°C" objective, pursuant to the Paris Climate Agreement of 2015. SBTi has validated Cementir Holding commitment to a 25% reduction of scope 1 and scope 2 GHG emissions per ton of cementitious products by 2030, from a 2020 baseline. The target boundary includes biogenic emissions and removals from bioenergy feedstocks.

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## C15. 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.

N/A

### C15.1

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(C15.1) 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

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

Please confirm below

I have read and accept the applicable Terms