C0. Introduction

C0.1

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

Limak Group of Companies entered into the cement sector when it took over Siirt Kurtalan Cement Plant in 2000. It acquired Ergani and Gaziantep Cement Plants in 2006 through asset sale from the Savings Deposit Insurance Fund (SDIF), and Urfa Cement Plant in 2007. Group has completed investments in Bitlis in 2008 and in Mardin-Derik in 2009. At the end of 2010, the market share of Limak reached 7% in Turkey. In 2011, Group took over 4 cement plants located in Ankara, Balıkesir, Trakya & Ambarlı and 12 ready-mixed concrete facilities from Set-Italcementi, and market share reached to 11%. By the completion of modernizations studies in factories, the clinker and the cement capacities of the Group have been increased to 8,000 ktons/year and 14,800 ktons/year respectively. Group started a grinding & packaging cement plant investment in March 2015 in Matola port located in Maputo, capital city of Mozambique, which has a capacity of 700.000 tons/year. The plant became operational at the end of 2016 Q4. Group had commissioned the new integrated cement plant in Ankara, Temelli, in Q3 of 2018 which have 1,800 ktons/year cement capacity. The second investment in Africa, which is another grinding & packaging cement plant with ready- mix concrete plant in Abidjan, commercial capital city of Côte d'Ivoire, has a capacity of 1.000.000 tons cement/year and 1.000.000 m3 of ready-mix concrete. The plant was put into operation in 2018 Q4.Furthermore, Group decided to invest in a new integrated cement plant in Kilis with a cement capacity of 2,3 mtons/year which is located in South Anatolia. The plant was put into operation in Q4 of 2019 and started commercial activities in January 2020. Today, Limak Cement Group has the second biggest production capacity in Turkey and has 14 % of domestic market share. Since 2000, the major achievements of Limak Cement over the years are operations and investments continued in 4 different countries, largest Turkish investments in two different Sub-Saharan African countries, ranked 111th among all companies and first in the cement sector according to the Top 500 Industrial Organizations of Turkey researches prepared by İstanbul Chamber of Industry (ISO), received "Best Industrial Investment Made in 2014-2017 Award" in Mozambique, 3 ready-mixed concrete R&D labs with international accreditation certificates, first projects in the Turkish cement sector with the energy efficiency and clean technology funds of the World Bank and European Investment Bank, low NOx emission rotary kilns with calcinators taken into operation for the first time in the Turkish cement sector,first rank among integrated cement factories in Turkey in the low energy consumption listing, according to the Ministry of Energy and Natural Resources data, first integrated cement factory with a GOLD Certificate (2 GOLD and 1 SILVER certificates),full compliance with the Sustainable Growth Objectives published by United Nations, "Most Environment Friendly Firm" in Turkey in 2018 award by the Ministry of Energy and Natural Resources, In Cote d'Ivoire, Limak Africa SA rewarded with the only cement plant to be in the top 10 in the ranking of the most environmentally friendly companies.An Integrated Management System, including the ISO 45001 Occupational Health and Safety Standard, is implemented at all cement factories. The Group has continued to reinforce the significance it attaches to the health and safety of all permanent and subcontractor employees, who are directly or indirectly employed within its organization, with the "zero accident, zero fatality" objective. Limak Cement Group has adopted an Integrated Management System in the group in general, in order to make more effective planning, define common objectives that are measurable and have added value, identify strengths and weaknesses, share correct and incorrect practices over a single platform, minimize unnecessary resource use and increase employee motivation by corporate synergy and common objectives. Studies on compliance with the current versions of ISO 14001 Environment Management System and ISO 9001 Quality Management System, which have been issued in 2015, have also been carried out in the Group in general ISO 27001 Information Security Management studies continue in order to protect information assets and to provide adequate and proportional security controls that give confidence to the relevant parties. Limak Cement Group has an action agenda primarily in 5 fields within the scope of its sustainability activities. These could be classified as CO2 & Environment Protection, Responsible Fuel and Raw Material Use, Employee Safety and Health, Emission Monitoring and Reduction, Local Impact on Soil and Community, Limak Cement Group participated in Limak Holding's sustainability reporting process every year, in compliance with the "Core" option of the GRI Standards developed by Global Reporting Initiative (GRI) and continued its activities within this context.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date
January 1 2022

End date
December 31 2022

Indicate if you are providing emissions data for past reporting years
Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for
3 years

Select the number of past reporting years you will be providing Scope 2 emissions data for
3 years

Select the number of past reporting years you will be providing Scope 3 emissions data for
1 year

C0.3

(C0.3) Select the countries/areas in which you operate.
Côte d'Ivoire
Mozambique
Turkey

C0.4

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

TRY

C0.5

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

Operational control

C-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
Concrete production

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier

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 or committee	Responsibilities for climate-related issues
Chief Executive Officer (CEO)	The CEO of Limak Cement Group should have knowledge and responsibilities on sustainability and climate related issues since these concepts should be integrated and taken into consideration in all phases of the management studies as requirement of global mitigation actions. The Sustainability Committee forms and develops the main strategies of the company to keep the sustainability and climate change targets updated and applicable. The CEO should stand over the studies of the Committee and evaluate the existing and future trends regarding current topics such as climate funding, carbon pricing and energy efficiency investments. While planning the financial strategies and future investments of the Group, the acting with the a climate sensitive consideration will provide significant contribution on sustainable development and risk reduction strategies of the company.Unlike last year, our CEO is also the chairman of the newly established Limak Cement group carbon reduction strategy committee on carbon reduction issues. In summary, the main objective of this committee is; To determine the policies that will reduce the greenhouse gas emission of the Limak Cement group, to develop strategies compatible with the climate targets accepted by the European Union Commission, and CBAM etc. is to take precautions against the risks that other mechanisms may bring in the coming years. The CEO is the C-level executive with the highest authority, who chairs the Committee and is responsible for determining carbon reduction strategies and ensuring their sustainability, risk and opportunities, and defining the sustainability vision. Determining a general risk management strategy on climate-related issues in the Committee, identification of risks that may occur and measures to be taken against these risks, etc. He is the person who reviews and manages all the points. The CEO also ensures that this committee meets at regular intervals, receives information from the committee members on carbon reduction strategies, leads and communicates with senior management to obtain financial support for appropriate projects.
Chief Technology Officer (CTO)	The CTO is responsible for increasing energy efficiency, using alternative fuels and alternative raw materials, technological investment alternatives for less natural resource consumption, R&D projects for less carbon consumption, efficient use of water resources and alternative fuel studies in our company. Along with these studies, the CTO also takes an active role in environmental sustainability, water and carbon management. In addition, the CTO is the chairman of the "Corporate Check-Up Committee" that we have formed within the Limak Cement Group. This committee consists of Environment and OHS, Process, Health, Maintenance, electricity and automation, quality control units. The duty of the units is to visit our factories every year in accordance with the Institutional Check-Up calendar and to report the nonconformities they detect regarding their own units and to ensure that measures are taken. In this regard, Environment-OHS unit, like other units, conducts these visits separately for 7 of our factories every year and controls the whole factory in terms of Environment-OHS with a list similar to IFC performance standards. Storage and disposal of waste, package treatment system, periodic controls of equipment, control of emission values, compliance with environmental legislation and examination of relevant documents, water meters, storage of chemicals, etc. An audit is carried out on all environmental issues and nonconformities are reported, thus ensuring that all our factories have a sustainable strategy in terms of both environment and occupational safety and that production is carried out in accordance with environmental legislation. The CTO reviews the consolidated corporate check up reports and approves the final version.
Chief Operating Officer (COO)	It is the responsibility of the COO to ensure environmental, social and financial sustainability, to carry out studies to increase public and stakeholder awareness in the fight against climate change, and to invest in energy efficiency, renewable energy and recycling.
Board-level committee	Under the leadership of our CEO, the "Carbon Reduction Strategy Committee" has been established in order to determine policies that will reduce the greenhouse gas emission of the Limak Cement group, to develop strategies compatible with the climate targets accepted by the European Union Commission, and to take precautions against the risks that may be brought by CBAM and other mechanisms in the coming years. The group consists of the Group Sustainability and Climate Change Manager and the Deputy Group Process Director as representatives in the committee. Since the work carried out in the committee is very comprehensive, the committee members; It consists of various departments from financial reporting unit to business development, from Sustainability and climate change unit to R&D and Innovation unit. Developing greenhouse gas reduction strategies in line with the Paris Climate Agreement and the European Green Deal, increasing renewable energy investments, monitoring the carbon capture and storage projects planned to be implemented in the cement sector in the world, determining their applicability to our own facilities, and researching ways to reach financing sources for such projects, Developing different projects for the production of low carbon products, defining the risks we may encounter in cement exports in the coming years with the introduction of CBAM, taking precautions, determining how much our estimated emission amount will decrease until 2030 with the renewable energy investments planned to be made in the coming years and the production of low-carbon products. etc.studies constitute the main agenda items of this committee. Two separate teams were formed from the members of the committee, namely calculating greenhouse gas emissions and determining risk. As Limak Cement Group, we aim to determine our 2030 road map under the activities of the "Carbon Reduction Strategy Committee". The Committee meets every two weeks under the Chairmanship of the CEO and the studies and new roadmaps are discussed.

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	Reviewing and guiding annual budgets Overseeing major capital expenditures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Monitoring the implementation of a transition plan Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process Other, please specify (Monitoring and overseeing progress against goals and targets for addressing climate-related issues)	<Not Applicable>	The sustainability and climate change issues are reviewed and evaluated durign the weekly meetings. The Sustainability and Climate Change department searches for opportunities and follows the new developments to be able to maintain current operations and new investments in a more sustainable and free of climate related risk ways. There is a significant interest in sustainable manufacturing and reduction of climate related risks subjects in recent years since the devastating results of previous activities conducted with lack of environmental consideration are started to affect our daily lives and nature dramatically. As Limak Cement Group, we have completed, ongoing and planned studies on energy efficient, sustainable and less carbon emission manufacturing methods . Under the leadership of our board , we have decided to carry our studies in international scale by following and implementing most recent developments and participating top organizations actively working on climate related risks and sustainability. All the steps taken regarding the climate are supported by the CEO, CTO and COO and discussed at the top management. In 2023, unlike the previous year, ISO 14064-1:2018 Carbon Footprint was calculated for all our plants one by one and verified by an accredited 3rd organization by 2022 data. Carbon footprint calculation will continue to be done regularly every year for all our factories. The feasibility studies of the SPP project with a total installed power of 34.75 MW for our Kurtalan, Şanlıurfa, Derik and Ergani power plants have been completed. Opinions of Marjinal Agriculture, Relevant Municipality and Other Institutions regarding SPP Projects with an installed power of 41.40 MW for our Anka factory and preliminary permit processes were completed in 2022. Waste feeding system in our Anka factory and tire shredder investments in our Trakya factory were made and they were put into use in the last quarter of 2022. Our Limak Aafrika SA Factory became the first factory in the cement industry to receive the ISO 14001 Environmental Management System certificate in Ivory coast(2022). Limak Cimentos SA, which has been deemed worthy of the "Best Industrial Investment Made in Mozambique" Award, has become a factory that can produce its own energy with the Natural Gas Power Generation Facility commissioned in June 2022 and has increased the energy production capacity of the country in which it is located. Provided 4,8 MW installed power support. Operational security has been ensured with this critical investment, especially at a time when Sub-Saharan African Countries are facing serious energy crises. All climate-related activities in our African factories are followed and monitored step by step by the factory general managers..

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	As Limak Cement Group, our company has members of the board of directors who are competent on climate-related issues. Within the group, having knowledge of national and international standards and regulations on climate-related issues, having received training and experience in issues such as environmental sustainability, methods for reducing carbon release, efficient use of water resources, generally graduated from environmental engineering or related departments, took part in R&D studies on climate-related issues. In addition, managers who can play a more active role in water management and climate related issues, determination of risks and measures to be taken accordingly, and who can offer faster solutions depending on their experience on climate-related issues are assigned.	<Not Applicable>	<Not Applicable>

C1.2

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

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Providing climate-related employee incentives
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
The CEO of Limak Cement Group should have knowledge and responsibilities on sustainability and climate related issues since these concepts should be integrated and taken into consideration in all phases of the management studies as requirement of global mitigation actions. The Sustainability Committee forms and develops the main strategies of the company to keep the sustainability and climate change targets updated and applicable. The CEO should stand over the studies of the Committee and evaluate the existing and future trends regarding current topics such as climate funding, carbon pricing and energy efficiency investments.While planning the financial strategies and future investments of the Group, the acting with the a climate sensitive consideration will provide significant contribution on sustainable development and risk reduction strategies of the company. CEO approves the investment decision of projects (SPP, WHR, RDF, etc.) aimed at reducing carbon emissions.
Our CEO is also the chairman of the newly established Limak Cement group carbon reduction strategy committee on carbon reduction issues. In summary, the main objective of this committee is; To determine the policies that will reduce the greenhouse gas emission of the Limak Cement group, to develop strategies compatible with the climate targets accepted by the European Union Commission, and CBAM etc. is to take precautions against the risks that other mechanisms may bring in the coming years. The CEO is the C-level executive with the highest authority, who chairs the Committee and is responsible for determining carbon reduction strategies and ensuring their sustainability, risk and opportunities, and defining the sustainability vision. Determining a general risk management strategy on climate-related issues in the Committee, identification of risks that may occur and measures to be taken against these risks, etc. He is the person who reviews and manages all the points. The CEO also ensures that this committee meets at regular intervals, receives information from the committee members on carbon reduction strategies, leads and communicates with senior management to obtain financial support for appropriate projects.

Position or committee
Environment/ Sustainability manager

Climate-related responsibilities of this position
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Corporate Sustainability/CSR reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
The Sustainability and Climate Change manager serves as the deputy of the "Carbon Reduction Strategy Committee". Two separate teams were formed from the members of the said committee, namely calculating greenhouse gas emissions and determining risk. The sustainability and climate change manager has a role at both tables. These tasks include checking the ISO 14064 carbon footprint calculations that all our factories will complete every year and the greenhouse gas emission calculations including the amount of scope 1 emissions from combustion and process every year in accordance with the Turkish Environmental Legislation, developing different projects for the production of low-carbon products, calculate the CO2 eq savings we will achieve from renewable energy, determining the risks related to climate change and preparing an appropriate action plan, and participating in CCUS seminars in order to closely follow the technological developments in the world. Compared to the previous year, the frequency of reporting by the Sustainability and Climate Change Leader and her team to the senior management on climate-related issues has been increased.
Also, Corporate Sustainability and Climate Change Manager is main responsible for the implementation of the sustainability policies and troubleshooting of the climate related issues of the Group. The planning and follow-up of the factory based studies and the coordination of the sustainability and climate change responsible charged in each factory are in the responsibility of Corporate Sustainability and Climate Change Leader.The climate related issues should be monitored continuously and the immediate action plans should be prepared to get accurate results in terms of both environmental and financial aspects. Nowadays, climate related issues have reached to a certain level which could affect the financial development strategies and daily operational activities of most of the companies.By considering all these, it is decided to direct connection of Corporate Sustainability and Climate Change Leader to CEO to be able to facilitate and accelerate the evaluation and implementation of the determined development actions. Limak Cement Group has great passion and motivation for the remediation and improvement of climate related issues and company’s sustainability perspective. .
In 2023, ISO 14064-1: 2018 Carbon Footprint calculations were completed one by one for all our factories (7 cement factories in Turkey) and their verification was done by an accredited 3rd Organization. Carbon footprint calculation will continue to be done regularly every year for all our factories. All our environmental engineers in our factories complete ISO 14064-1: 2018 Carbon Footprint calculations for their own factories and attend other necessary trainings to develop greenhouse gas reduction strategies.

Position or committee
Sustainability committee

Climate-related responsibilities of this position
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line
Corporate Sustainability/CSR reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
Quarterly

Please explain
The sustainability studies of the Limak Group are managed by the Sustainability Governance Platform which lead by the Limak Group Sustainability Leadership. This Governance Platform determines strategic sustainable growth targets and submit to management for approval, implements the sustainability approach in all business groups and integrates into all business, manages value proposals, corporate reputation and stakeholder communication, provides corporate compliance, KPI, risk, performance and motivation management, manages financial and non-financial assets and corporate information, ensures the release of institutional reports such as the Global Compact Progress Statement Report and establishes the infrastructure required for the monitoring and following up of the sustainability activities. The Sustainability Support Office and Sustainability Committees are the subsidiaries of the Governance Platform to provide support with well-organized responsibility distribution. Sustainability Committee consists of three main committees which are Inclusive Development Committee, Social People and Healthy Planet Committee. The major responsibilities of those committees are performing feasibility studies for the accomplishment of the sustainability goals, monitoring and following up of the sustainability goals and drawing up the progress reports on the goals. The Corporate Sustainability and Climate Change department of the Limak Cement Group established its own Sustainability Committee to contribute to Limak Group Committees with its own sustainability targets and strategies (Stakeholder Engagement, Supply Chain Management, Occupational Health & Safety Management, Emission Control & Climate Change, Water & Energy Efficiency, Biodiversity, Zero Waste, Alternative Raw Material & Fuel) Corporate Sustainability and Climate Change Manager is the key responsible for the coordination and implementation of the sustainability goals and remediation of climate-related issues.
Compared to the previous year, the frequency of reporting by the Sustainability Management Platform to the senior management on climate-related issues has been increased.

Position or committee
Chief Technology Officer (CTO)

Climate-related responsibilities of this position
Providing climate-related employee incentives
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Other, please specify (CTO Reporting Line)

Frequency of reporting to the board on climate-related issues via this reporting line
Half-yearly

Please explain
The CTO is responsible for increasing energy efficiency, using alternative fuels and alternative raw materials, technological investment alternatives for less natural resource consumption, R&D projects for less carbon consumption, efficient use of water resources and alternative fuel studies in our company. Along with these studies, the CTO also takes an active role in environmental sustainability, water and carbon management.
Compared to last year, the frequency of CTO reporting to senior management on climate-related issues has been increased.

Position or committee
Chief Operating Officer (COO)

Climate-related responsibilities of this position
Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Monitoring progress against climate-related corporate targets
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Operations - COO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
As important matters arise

Please explain
It is the responsibility of the COO to ensure environmental, social and financial sustainability, to carry out studies to increase public and stakeholder awareness in the fight against climate change, and to invest in energy efficiency, renewable energy and recycling.

Position or committee
Other committee, please specify (Carbon Reduction Strategy Committee)

Climate-related responsibilities of this position
Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
Providing climate-related employee incentives
Developing a climate transition plan
Implementing a climate transition plan

Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
Limak Cement Group works to reduce greenhouse gas emissions and to ensure sustainability by developing strategies compatible with climate change, and always prioritizes climate-related issues. The "Carbon Reduction Strategy Committee", which was established for this purpose and whose job description is mentioned in this report, was formed by the gathering of employees from many different units. Committee Members and their distribution of duties are given below (The duties of some units in the committee are summarized) ;

CEO: Chairing the committee is the C-level executive with the highest authority, responsible for determining carbon reduction strategies and ensuring their sustainability, defining risks and opportunities and sustainability vision. Determining a general risk management strategy on climate-related issues, defining the risks that may occur and measures to be taken against these risks, etc. He is the person who reviews and manages all the points. The CEO also ensures that this committee meets at regular intervals, receives information from the committee members on carbon reduction strategies, leads and communicates with senior management to obtain financial support for appropriate projects.

The Sustainability and Climate Change Manager: She serves as the deputy of the "Carbon Reduction Strategy Committee". She leads many issues such as developing different projects for the production of low-carbon products, calculating the CO2 eq savings we will obtain from renewable energy projects, determining the risks related to climate change and preparing the appropriate action plan.

Group Process Deputy Director: By conducting detailed research on carbon capture and storage technologies and meeting with the companies that provide support in this regard, informing the committee about their applicability to our facilities and carrying out the necessary studies will make it easier for us to determine our 2030 targets by creating detailed tables showing the emission data of our factories, the amount of fuel and raw materials used is among his duties.

Sustainability Team: This unit, which includes the Sustainability and Climate Change Chief and Engineer, is responsible for checking the ISO 14064-1 carbon footprint calculations that our factories will complete every year and the greenhouse gas emission calculations, which include the amount of scope 1 emissions from combustion and process, calculated every year in accordance with the Turkish Environmental Legislation.

Waste Management : It works to improve the waste supply process and increase the waste portfolio.

Energy: To conduct research on energy efficiency studies, renewable projects of the future, and to carry out feasibility studies.

Project : Responsible for execution of the Project, technical solutions proposal,contact with suppliers/ technical offers.

R&D: Planning and researching for the production of low carbon products.

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	For the reduction of climate related risks and sustainable development, Limak Cement Group set rigid targets to achieve sustainability KPIs. By the contribution of all the departments but mostly under the focus of Sustainability and Climate Change Department, technical center and R&D are studying on several projects such as alternative fuel and raw material usage, plans to reintroduce nature the decrease in raw material utilization and clean or reneable energy production. The aim of those studies is rising awareness for sustainability and climate related risk topics in all units of the Group together with the financial concerns. These studies could be supported with monetary and non-monetary rewards to increase the motivation of project attendees and spread the sustainability consciousness to all bodies of the Group.

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
Chief Executive Officer (CEO)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)

Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
It is the CEO's responsibility to ensure the implementation of KPIs and operational performance indicators. Fundamental initiatives to achieve sustainable and financial development goals such as reducing fossil fuel, energy and raw material consumption and increasing the use of alternative fuels are reviewed and projected by the corporate team and the CEO. These initiatives are fundamentally important in the context of climate-related issues as they will directly affect greenhouse gas emissions. Investments in climate-related risks and opportunities are projected by both the Management and the Sustainability Committee under the control of the CEO, and are supported by the CEO in order to carry out efficient work and achieve results. In this way, with the incentives and motivation of the CEO, it is aimed to finalize climate-related issues more quickly.
In this way, with the incentives and motivation of the CEO, climate-related issues are concluded more quickly and effectively. The CEO ensures his employees participation in international seminars where new technologies regarding renewable energy, CCUS projects and technologies are presented in order to encourage his employees on climate-related issues.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
Thanks to the CEO's encouragement to employees on climate-related issues, our climate-fighting plans are progressing positively. Employees who get the chance to conduct research in climate-related fields, work and develop different projects as a result of these incentives contribute to our future goals in many ways.

Entitled to incentive
Other, please specify (Corporate Sustainability and Climate Change Manager)

Type of incentive
Non-monetary reward

Incentive(s)
Internal company award

Performance indicator(s)
Progress towards a climate-related target
Implementation of an emissions reduction initiative
Reduction in absolute emissions
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to
Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)
The Group Corporate Sustainability and Climate Change Manager organizes trainings for the employees in our factories and facilities on environmental issues such as the foundations of sustainable development, sustainability, development goals, social development, sustainable development goals, and encourages the employees in this direction and raises awareness on issues related to climate change. All employees can fill out an environmental suggestion form through our online notification system LİMBES application. The Group Corporate Sustainability and climate change manager reviews the environmental suggestion forms and gives an encouraging certificate of appreciation to the employees.
Corporate Sustainability and Climate Change Manager is main responsible for the implementation of the sustainability policies and improvement of the climate- related issues of the company. The planning and follow-up of the factory-based studies and the coordination of the sustainability and climate change responsible of each factory are in the responsibility of Corporate Sustainability and Climate Change Manager.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
Thanks to the incentives of the Group Corporate Sustainability and climate change manager, many employees make various suggestions that will contribute to our future plans on climate-related issues. The Group Corporate Sustainability and Climate Change Manager encourage employees on climate-related issues. As a result of this encouragement, our climate-fighting plans are progressing positively. Employees who get the chance to conduct research in climate-related fields, work and develop different projects as a result of these incentives contribute to our future goals in many ways.

Entitled to incentive
Other, please specify (R&D Department)

Type of incentive
Monetary reward

Incentive(s)
Other, please specify (Sending employees to the vacations or trainings they desire, awarding with a gold etc.)

Performance indicator(s)
Progress towards a climate-related target
Achievement of a climate-related target
Implementation of an emissions reduction initiative
Reduction in absolute emissions

Incentive plan(s) this incentive is linked to
Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)
Limak Cement makes an evaluation to reward the R&D Center personnel according to the following parameters:
1. Developing R&D activities with strong R&D and innovative aspects
2. Carrying out the necessary studies in order to reach the targets determined in accordance with the short-, medium- and long-term strategies of R&D Center
3. Developing of national and international R&D projects about low carbon products, energy efficiency, renewable energy, etc.
Within the framework of our continuous improvement strategy, the project and subject suggestion system, improvement activities and high performance are also included in the reward and incentive system. The main objective of the performance system is to strengthen the professional R&D aspects of the R&D Center personnel, as well as to support the company in reaching its R&D targets.
Apart from the product quality control laboratories, there is a central cement laboratory used for the R&D studies within the scope of Limak Cement Group. Together with the special experiments such as analysis and optimization of alternative materials, waste analysis, burnability analysis, there are some other on-going studies for alternative raw material usage, carbon dioxide decreases to be able to participate in low carbon road map. A new type of cement named as Limak CEM PLUS+ has already been developed to achieve low carbon footprint target of the Group. This product has been patented and released to market as a low carbon cement type. Also, a study was conducted for the use of fly ash, bottom ash and synthetic plaster coming from thermal energy plants in cement production following an effective quality and product

management period. As a first manufacturer in both Turkey and European Union countries, two new cement products coded as CCBA 42,5 R and CCBA 32,5 N (Cement with Coal Bottom Ash –CCBA) has taken European Assessment Documentation (ETA) from European Organization for Technical Assessment (EOTA) in 2019.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
Within the framework of our continuous improvement strategy, the project and subject suggestion system, improvement activities and high performance are also included in the reward and incentive system. The main objective of the performance system is to strengthen the professional R&D aspects of the R&D Center personnel, as well as to support the company in reaching its R&D targets.

Entitled to incentive
Other, please specify (Process Operation Director)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
Within the scope of emission reductions studies, Process Operation Director and facility managers should follow the defined KPIs. Sustainability risks and opportunities could be defined by following the process inputs/outputs systematically. The attempts like reduction of energy consumption, the use of fossil fuels, increasing the use of alternative fuels, decreasing used clinker amount for cement production for elimination of the climate related risks should be achieved by the process team under the control of Process Operation Director.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

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Entitled to incentive
Other, please specify (Energy Director)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
In order to leave a more livable world to future generations and to contribute to a more sustainable environment, we replace the resources we use in energy consumption with renewable ones. According to the 2021 Benchmarking data of the Ministry of Energy and Natural Resources, our Limak Anka Cement Factory ranked first in the "kwh/tonne cement category" among 55 integrated cement factories. In addition, 4 of our factories are in the top 5.Thanks to the investments done since 2008, Limak Cement is Turkey's best performance company in the energy consumption of the sector. Despite this outstanding performance, prioritizing continuous improvement in sustainability, Limak Cement continues to set new goals with innovative studies. Certification processes shall be concluded until 2023 for the plants not in possession of ISO 50001 Energy Management System. (Starting from 2019) 6.8% energy efficiency shall be ensured until 2026. In order to leave a more livable world to future generations and to contribute to a more sustainable environment, we replace the resources we use in energy consumption with renewable ones. According to the 2021 Benchmarking data of the Ministry of Energy and Natural Resources, our Limak Anka Cement Factory ranked first in the "kwh/tonne cement category" among 55 integrated cement factories. In addition, 4 of our factories are in the top 5.Thanks to the investments done since 2008, Limak Cement is Turkey's best performance company in the energy consumption of the sector. Despite this outstanding performance, prioritizing continuous improvement in sustainability, Limak Cement continues to set new goals with innovative studies. Certification processes shall be concluded until 2023 for the plants not in possession of ISO 50001 Energy Management System. (Starting from 2019) 6.8% energy efficiency shall be ensured until 2026.
Ministry of Energy and Natural Resources 2022 Benchmarking data has not been announced yet.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

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Entitled to incentive
Other, please specify (Procurement Director)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
In order to leave a more livable world to future generations and to contribute to a more sustainable environment, we replace the resources we use in energy consumption with renewable ones. According to the 2021 Benchmarking data of the Ministry of Energy and Natural Resources, our Limak Anka Cement Factory ranked first in the "kwh/tonne cement category" among 55 integrated cement factories. In addition, 4 of our factories are in the top 5
Thanks to the investments done since 2008, Limak Cement is Turkey's best performance company in the energy consumption of the sector. Despite this outstanding performance, prioritizing continuous improvement in sustainability, Limak Cement continues to set new goals with innovative studies. Certification processes shall be concluded until 2023 for the plants not in possession of ISO 50001 Energy Management System. (Starting from 2019) 6.8% energy efficiency shall be ensured until 2026.
The suppliers are evaluated according to their environmental impacts of whole operations. They are rated by using "Supplier Evaluation Form" and according their performances, the further procurement strategies are determined with those suppliers.

In order to leave a more livable world to future generations and to contribute to a more sustainable environment, we replace the resources we use in energy consumption with renewable ones. According to the 2021 Benchmarking data of the Ministry of Energy and Natural Resources, our Limak Anka Cement Factory ranked first in the "kwh/tonne cement category" among 55 integrated cement factories. In addition, 4 of our factories are in the top 5
Thanks to the investments done since 2008, Limak Cement is Turkey's best performance company in the energy consumption of the sector. Despite this outstanding performance, prioritizing continuous improvement in sustainability, Limak Cement continues to set new goals with innovative studies. Certification processes shall be concluded until 2023 for the plants not in possession of ISO 50001 Energy Management System. (Starting from 2019) 6.8% energy efficiency shall be ensured until 2026. The suppliers are evaluated according to their environmental impacts of whole operations. They are rated by using "Supplier Evaluation Form" and according their performances, the further procurement strategies are determined with those suppliers.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The SAP software module used by the procurement unit will be developed to provide easier data for ISO 14064-1 carbon footprint calculations. There are studies of the procurement director related to the subject. The purchasing director encourages employees in this and all similar climate-related issues.
While calculating the ISO 14064-1 carbon footprint, in order to access the data more easily, it has become obligatory for visitors to provide the information to fill the visitor module part of our LIMBES system to specify how many kilometers they come from, and also to specify the fuel type of the vehicle they come with. In this way, we encourage the visitors on climate-related issues as well.

Entitled to incentive
Other, please specify (Mining Department)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
The research for the alternative raw material to decrease the emission and increase the efficiency (The effective grindability raw material to decrease the energy consumption, fossil fuel with high calorific value).

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

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Entitled to incentive
Other, please specify (Corporate Finance and Risk Manager)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
Risk management includes both strategy and the operational sides. The determined risks are classified according to their severity, possibility and frequency rates and both Management & Sustainability Committee are informed about high level risks for advised alternative solutions and budget approval. The climate change and carbon trading are the major risks groups followed.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

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Entitled to incentive
Other, please specify (Facility Directors)

Type of incentive
Non-monetary reward

Incentive(s)
Please select

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
Within the scope of emission reduction studies, facility managers follow the defined KPIs to decrease in GHG emissions which is the major reason of climate related issues. All members of the factory are supported with required trainings, meetings etc. to raise awareness on their responsibilities and importance of sustainable development and climate related issues.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

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Entitled to incentive
Other, please specify (Facility Environment/Sustainability Leaders)

Type of incentive
Non-monetary reward

Incentive(s)
Internal company award

Performance indicator(s)
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
The monitoring of the production activities to ensure the KPIs are followed in all phases of process is major responsibilities of Facility Environment/Sustainability Leaders. The arrangement of the trainings to increase the sustainability and climate change awareness of the factory personnel.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
Our environmental engineers at the our plants work in partnership with all units while calculating the ISO 14064-1 carbon footprint. They provide training on climate-related issues, encourage employees and raise the awareness.

Entitled to incentive
All employees

Type of incentive
Please select

Incentive(s)
<Not Applicable>

Performance indicator(s)
Please select

Incentive plan(s) this incentive is linked to
Please select

Further details of incentive(s)
The suggestions of the personnel who fill out the LIMBES Environmental Suggestion Notification form are examined and projects that are important in combating climate are evaluated and the relevant personnel are rewarded with financial incentives.
Limak Cement Group has a self-developed application named as LIMBES. It provides online access to HSE forms, entrance and exit control sheets, risk management documents, suggestion and complaint sheets. This application is available for all Limak Cement personnel with defined username and password so it provides convenient communication for all factory activities. We arranged HSE a near miss reporting competition through LIMBES among all blue-collar workers in Limak Anka Cement factory and the worker sharing highest amount of near miss report had a monetary reward. This type of monetary rewarded events could be organized to contribute corporate sustainability targets and climate related issues to be able to increase energy efficiency, decrease raw material consumptions and so on.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The suggestions of the personnel who fill out the LIMBES Environmental Suggestion Notification form are examined and projects that are important in combating climate are evaluated and the relevant personnel are rewarded with financial incentives.

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	1	3	Together with the current climate related issues, there could be further changes in regulations to limit the CO2 emissions, decrease fossil fuel usage, promote alternative fuel usage and increase the energy efficiency so these could cause in short-term risks if the required pre-studies were not conducted in advance. According to the provisions of the European Green Deal and Paris Agreement, the carbon pricing mechanism will become valid until 2023 so this will cause an economical burden for the importer/exporter companies. Also, climate change could cause unexpected weather conditions like heavy rains, floods, droughts, windstorms etc. and this will create short-term risks for operational activities.
Medium-term	3	5	The increase in CO2 level is one of the major sources of the climate related isses so low carbon economy became initial remediation strategy in worldwide. The formation of a carbon pricing mechanism and board tax (ETS or carbon tax) is accepted as best available technique for near future. These will bring some additional responsibilities to companies both financially and technically. The determination of future strategies according to those new trends will also provide great opportunity to company. The use of alternative fuels and biomass as fuel source is one of the common strategies to lower the carbon release during the operations. The organizations and individuals have started to have more environmental conscious and it will require to have a better Stakeholder Engagement strategy to present their environmental impacts in an understandable way. The raw materials for the clinker production are less available day by day together with increase in manufacturing capacity. The accelerating the research and development studies for alternative raw material will provide great opportunity for the future operations of company.
Long-term	5	10	The use of alternative energy sources such as renewable and clean energy to provide required energy for the clinker & cement manufacturing will become an obligatory in future since the negative effects of the fossil fuel to the environment have already started to be observed and it will continue much more dramatically in time. The participating in global organizations dealing with climate related issues and mitigation development strategies could provide real opportunities in long-term for the company to be able to plan their future manufacturing strategies in environmentally friendly way such as decrease clinker factor in cement, increase the use of alternative fuels and energy efficiency. Limak Cement Group plans to clarify its 2030 targets on climate-related issues by the end of this year.

C2.1b

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

The Group defines existing and further risks in line with the criteria indicated in risk management plan of the company. The Sustainability and Climate Change department defines climate related risks by considering the current environmental situation of the affected regions and expected further risks for the Group operation both environmentally and financially. The risk analysis is updated and revaluated in determined period of time. Each department of the Group has weekly meeting with CEO and the major topics could be discussed on those meetings. Also, there are daily executive meetings which enables to discuss ongoing or latest topics with management so new detected risks and existing ones could be evaluated with related departments without any delay.

In addition to these, the “Carbon Reduction Strategy Committee” that we established in 2023 meets every two weeks. There is a risk identification team in the committee and consists of foreign trade manager, financial reporting manager, business development specialist, Sustainability and climate change manager and chief. This team works on all factors and risks that are shaped by the Paris Climate Agreement, from determining a general risk management strategy to creating a risk and opportunity profile, and that can have a significant financial and strategic impact on our organization.

C2.2

(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
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Environmental risk analysis and assessment are performed in order to prevent negative impacts on the environment and society, to reduce them to a minimum level where they cannot be prevented and to ensure that appropriate measures are taken. As a result of these analyses and evaluations, mitigating or completely eliminating activities for the environmental impacts determined are determined as objective and continuously monitored. Related performance data and intensity indicators (per capita consumption) are collected and monitored and evaluated in line with the targets set. Corrective actions are determined with a continuous improvement approach, thus ensuring that measures are taken to eliminate potential negative issues and prevent their recurrence. The company periodically organizes trainings for all its employees on environmental management practices, environmental impact and dimensions, waste management and energy efficient use in order to raise environmental awareness in all areas of activity.
In addition to these, the “Carbon Reduction Strategy Committee” that we established in 2023 meets every two weeks. There is a risk identification team in the committee and consists of foreign trade manager, financial reporting manager, business development specialist, Sustainability and climate change manager and chief. This team works on all factors and risks that are shaped by the Paris Climate Agreement, from determining a general risk management strategy to creating a risk and opportunity profile, and that can have a significant financial and strategic impact on our organization. The processes of identifying, evaluating and responding to climate-related risks and opportunities have become highly accelerated and effective with the carbon reduction strategy committee. At the committee meetings, the risk identification team identifies possible risks by following carbon-related legislation on a global scale, and also determines the risks we may encounter and the measures to be taken against them by conducting investment cost analysis for prospective renewable energy projects or CCUS projects. At the same time, the Risk Determination Desk is responsible for determining the risks related to climate change and preparing the appropriate action plan. Since the committee convenes under the chairmanship of the CEO, after the risks and opportunities are determined on climate-related issues, it is quick to take actions or convey the financing approval for the decided project to the senior management.

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	"GHG Monitoring Reporting Verification" is the only regulation which is directly related with the climate related risks. The requirements of that regulation such as CO2 emissions calculation are provided with annual reports to Ministry of Environment. This report is prepared by the third-party company including audit observations and calculation verifications.The Paris Agreement was approved by the Turkish Grand National Assembly and published in the Official Gazette in 2021. Depending on this agreement, ETS, Carbon pricing, border carbon regulation etc. The possible financial risks of the strategies are monitored and determined by the Carbon Reduction Strategy Committee established within the Limak Cement Group. The Climate Change law has not yet been approved by the Turkish Grand National Assembly and is in draft form. The Draft Climate Change Law process is followed by the Carbon Reduction Strategy Committee established within the body of Limak Cement.
Emerging regulation	Relevant, always included	The potential climate related risks are followed and identified by the Corporate Sustainability and Climate Change Department. Those risks are evaluated together with the Risk Department in Sustainability Committee. ETS and EU Green Deal are the major two emerging regulation within the scope of regulative action of the Turkey. The GHG emissions of the companies are followed in accordance with GHG Monitoring Reporting Verification" which is the only direct regulation related to climate change as well as Paris Climate Deal which confirmed by Turkish Grand National Assembly and published in the Official Gazette in 2021. The cement sector will be affected mostly from the carbon tax and other financial changes since it has one of the highest emissions among the other sector so the pre-studies have high importance for further changes. EU Green Deal is another hot agenda for the adjustment of climate related risks in Turkey. There should be some required adjustment strategies to have smooth integration period for further changes. Climate-related risks and opportunities are also determined by the "Carbon Reduction Strategy Committee" that we established in 2023. The risk identification team within the committee determines possible risks by following carbon-related legislations on a global scale, and also determines the risks we may encounter and the measures to be taken against them by conducting investment cost analysis for prospective renewable energy projects or CCUS projects. At the same time, the Risk Identification Desk is responsible for determining the risks related to climate change, preparing the appropriate action plan, and determining the overall risk management strategy in accordance with the climate strategies of the European Union commission.
Technology	Relevant, always included	The technological developments mostly are aimed and presents carbon mitigation opportunities to companies but these technologies require high investment cost most of the cases. The emission reduction could be one of the major duties of the companies in future also due to the financial and legal obligations so the following the further technologies could provide opportunities to avoid from the sanctions. The Limak cement have existing and further strategies within that scope such as alternative fuel usage technologies and new clinker types causing less emission during the manufacturing. All new technologies produced in order to reduce the CO2 level in the cement sector are followed by the "Carbon Reduction Strategy Committee" that we established in 2023. In this context, CEO of the said committee, Sustainability and Climate Change Engineer, Business Development Specialist, R&D and Innovation Leader and Deputy Group Process Director attended the Carbon capture, storage and use seminar held in Copenhagen, Denmark on 16-17 May 2023. At the same time, the Group's Sustainability and Climate Change Chief, Group Process Deputy Director and R&D and Quality Manager participated in the "Carbon Capture" seminar held in Amsterdam, the Netherlands on 26-27 June 2023.
Legal	Relevant, always included	Presidential Circular on the Action Plan, which is important in terms of protecting and strengthening our country's place in global supply chains and attracting green investments to our country, as well as improving our competitiveness in our exports, and aiming to support green transformation in all relevant policy areas, was published in the Official Gazette dated 16.07.2021. In this framework, it is aimed to carry out the objectives and activities within the scope of the Action Plan effectively with the public, private sector and all relevant stakeholders within the scope of the European Green Deal Consensus Working Group. Apart from this, the Ministry of Environment, Urbanization and Climate Change has some preliminary studies that determine potential carbon prices for Turkey. The Climate Change Law, on the other hand, has not yet been approved by the Turkish Grand National Assembly and is in draft form. The Draft Climate Change Law process is followed by the Carbon Reduction Strategy Committee established within the body of Limak Cement. Our Limak Cement Group conveys its policy suggestions and opinions to the Ministry in question for the low-carbon roadmap project for the Turkish Cement industry by the Ministry of Industry and Technology of the Republic of Turkey.
Market	Relevant, always included	One of the most important financial risks for the cement industry is carbon pricing. The market prices of cement may change according to subsequent regulatory applications. Climate-related risks can also place a greater burden on companies' ability to reduce environmental impacts. The Sustainability and Climate Change Department and the carbon reduction strategy committee review and identify these risks and share them with the relevant department of the Group so that they can evaluate the financial or other aspects of these risks. The R&D department, the Sales Department and the Sustainability department within the Carbon Reduction strategy committee are currently coming together especially on carbon pricing and low carbon strategies. In addition, the Carbon Reduction and Strategy Committee also carries out activities such as determining policies that will reduce the greenhouse gas emission of the Limak Cement group, developing strategies compatible with the climate targets accepted by the European Union Commission, and CBAM process studies, carbon pricing, etc. It has mission definitions such as taking precautions against the risks that other mechanisms may bring in the coming years. There is a need to expand the production and use of low clinker cement in our country. In this context, in domestic sales and public tenders; First of all, starting from 2024, the requirement to use cement with a maximum clinker ratio of 85%, promoting the use of cement with a clinker ratio of 75% until 2030, and requiring the use of cement with a clinker ratio of 75% as of 2030 has been adopted by our industry. It was shared with the High Technics Board by the Turkish Cement Manufacturers' Association. Customer awareness is also very important for the market risks. This necessitates proactive changes to effectively manage this risk and meet the evolving needs of customers and the market. R&D Department, Sales Department and Sustainability Department are currently working on especially carbon pricing and low carbon strategies.
Reputation	Relevant, always included	The reputation of the Group directly affects the current operations and further investments. A high-quality risk management will be major tool to identify the major factor to be able to affect the reputation of the Group and it will be guideline to remove those factors before occurring. The Stakeholder Management has the highest importance to manage the Group reputation in all aspects. Unfortunately, the climate related issues were started to be perceived by the whole people and they started to react new investments which could add new pollutant sources to the nature. As Limak Cement Group, we are cooperating with professional consultancy firms in addition to our existing own strategies and studies to manage stakeholder processes of our investment ideally. The main purpose of the stakeholder engagement is the proper presentation of our sustainability and climate change strategies before getting reactions. These provide both financial and social benefits for the existing and further operations of the Group. By delivering our low carbon R&D strategies and priorities to customers, we add value to our reputation about awareness of the environment. At this point, calculations were made in order to calculate our carbon footprint with the ISO 14064 Method and thus to follow our corporate carbon footprint, to determine our greenhouse gas reduction strategies and to take the necessary measures. We are in constant communication with the units we work with such as business development, purchasing, sales and marketing. We aim to provide data accessibility for the following years by adding new modules to the software used by these units and preparing the necessary tables for them to create more accurate carbon footprint data. As Limak Cement, we adopt sustainability as a business model and strive to fulfill our responsibility for our planet and sustainable life in the best way possible. In this context, a sustainability survey was conducted for all our stakeholders in order to determine the priorities of our sustainability strategies. For example, a survey was conducted with 154 internal stakeholders and 79 external stakeholders. Online trainings have been determined through the Limak Cement Academy system in order to help our stakeholders adopt the most important sustainability issues today and in the future. Trainings will be given in 2023.
Acute physical	Relevant, always included	The acute physical risks could be defined as short term risks for our company. The unexpected natural events (floods, draughts, heavy rains, earthquakes, extreme hot weather etc.) are the major risk within that scope. They could cause interruptions for procurement operations of the imported process materials such as fuel, additives and so on. As Limak Cement Group, those issues are defined in risk management studies and the optimum precautions are determined and put in to operation.
Chronic physical	Relevant, always included	The chronic physical risks required detailed review to manage environmental, social and financal aspects of the existing and further investments. The cement factories are using significant amount of water and the water availability will be the one of major issues to be faced in near future so this could be one of the major chronic physical risk for our operation as well as whole humankind. A sustainable water supply or less water usage are our current strategies to get prepared for further issues. The Risk Management Department of the Group also works on detailed chronic physical risks according the current trends of the sector.

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?
Downstream

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
There will be carbon emission limitation within the scope INDCs (Intended Nationally Determined Contributions) of the Paris Climate Agreement and also, the Green Deal Agreement will determine carbon emission limitatations. The exceedence of those limitations will be regulated with a carbon pricing mechanism. Currently, there are two alternative carbon pricing mechanisms which are ETS or Carbon Tax. European Countries are mostly using ETS system. According the State and Trends of Carbon Pricing document of the World Bank, despite on going developments, most carbon prices are low, with almost half of the covered emissions priced at less than US $1 0/tCO2e but the High-Level Commission on Carbon Prices estimated that carbon prices of at least US$40–80/tCO2 by 2020 and US$50–100/tCO2 by 2030 are required to cost-effectively reduce emissions in line with the temperature goals of the Paris Agreement.
In Turkey's 2023 INDC updated statement, Turkey changed the GHG reduction target for 2030, which was presented as 21% in 2015, to 41% under the Paris Climate Agreement. (Comparing with 2012)
It was 430 Mt CO2e in 2012.
Target was 929 Mt CO2e (Normally 1.175 Mt CO2e) at the beginning. (%21 reduction)
Current Target 694 Mt CO2e (Still higher than 2012 GHG Value) (%41 reduction)
Turkey is aiming to reach the Net Zero Target by 2053.
Costs may also be significantly affected by the carbon prices to be paid for carbon emissions if sectors fail to meet the given targets. There may also be a risk that the cost increase will be reflected in the product prices, and this may create a competitive disadvantage. Limak has established the Carbon Reduction Strategy Committee in order to manage these risks. In the light of this committee, it aims to set emission reduction targets. The main target is to create 2030 carbon roadmap targets by the end of 2023. The decisions taken in this committee, which meets every two weeks under the leadership of the CEO, will be implemented quickly. Thanks to the CEO, important carbon reduction project investment decisions will be reported directly to the board of directors.
The magnitude of the risks associated with the implementation of the new climate strategies that came with the Paris Climate agreement and the fit for 55 proposal package on climate-related issues will mainly depend on Turkey's updated INDC, the market price of carbon allowances, the volume of free allowances and our cement production volume.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1884490347

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The total clinker production amount is 8.031.495 t /year according to information gathered from Process Department. The CO2 density value of the Group was calculated 851 kg CO2/ t clinker. ETS cap for EU countries are accepted as 766 kg CO2 /t clinker as reference value. The diference between company data and cap value is around 85 kg CO2/t clinker. According to Trading Economics data the average EU ETS unit price was accepted as reference which was realized as 90 EUR/ton CO2e in reporting year. The average Euro/TL exchange rate was taken as 29.25 TL from the Central Bank of Turkey. Our total verified coverage 1 emissions for our 7 plants; 7158557,83 t CO2e The maximum financial impact was calculated as 1.884.490.347 TL.

Cost of response to risk
196533406

Description of response and explanation of cost calculation
Cost of response data is received by our recent CAPEX Invesment Plan.

Comment
The carbon pricing mechnism for the Turkey still in phase of development. The whole CO2 density and emission unit costs are taken from the current literature research. The exact number could be available following the conclusion of the meetings on those subjects.

Identifier
Risk 2

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

Risk type & Primary climate-related risk driver

Emerging regulation	Other, please specify (Carbon Border Adjusment Mechanism (CBAM))

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Within the scope of European Green Deal, CBAM will be an obligation to be affected the importing studies of the companies. The application schedule of the CBAM is envisaged as two phases. During the transition period, which will start in 2023 and end in 2025, importers will not pay board tax but they will only apply the reporting requirements. Importers will pay the price for carbon in the second phase, which will start as of 2026. As an another current topic, the countries that apply or are connected to the EU emissions trading system are exempt from CBAM. Since there is no current carbon pricing mechanism in Turkey, this exemption will not be valid for Turkey under the current circumstances.
According to the first scenario, if Turkey establishes ETS mechanism, the board tax will be calculated by multiplying the importing amount (ton) with price difference between Turkish ETS and EU ETS. As second scenario, if Turkey will not have a ETS mechanism, the board tax will be calculated by multiplying the importing amount (ton) with EU ETS prices.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
313195460

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
According to the estimated numbers acquired from the study conducted by the and Turk Cimento to identify Carbon Border Adjustment Mechanism (CBAM), the responsible company will pay 9.5 € for the per tonnes of clinker (App. 1€ = 28,2 TL from the Central Bank of Turkey). According the information gathered from the related department of the Group, the approximate amount of imported cement to the Europe is 1.169.076 ton/year. By considering all these numbers, potential financial impacts could be calculated.

Cost of response to risk
196533406

Description of response and explanation of cost calculation
Cost of response data is received by our recent CAPEX Invesment Plan.

Comment
CBAM is an important source of risk for Turkey's exports. The fact that exporting powers such as China, Japan and South Korea, which are competitors of Turkey in the EU market after CBAM, accelerated the climate-compatible transformation, increased the urgency for Turkey. This risk can be turned into an opportunity with a transformation program that will cleanse the sectoral structure from carbon and pollution.
In Turkey, the public consultation process on the CBAM, carried out jointly with the Ministry of Climate Change and other relevant Ministries, continues. It is expected that the draft law, which includes the evaluation of all other situations such as the possible risks that the border carbon mechanism may bring to the hard to abated sectors in Turkey and the actions that can be taken against these risks, the carbon pricing, the establishment of the ETS system, will be enacted in the near future.
As Limak Cement Group, we are working to minimize the financial risks that may arise from CBAM within our carbon reduction strategy committee. Since this committee, which we have formed under the leadership of the CEO, is chaired by senior executives, the decision-making and implementation mechanism works quickly. In line with the new climate law to be brought by the Turkish government and the EU green agreement, any risk that may arise from CBAM will be examined in this committee and necessary actions will be taken and investments will be made.

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Other, please specify (Natural Disaster impacts of our production)

Primary potential financial impact
Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
The cement factories could be affected from the natural events such as cyclones, heavy rains, floods, draughts etc. The interruption of the raw material and fuel supply could happen due to such extreme natural events. This could cause operation stoppage which results with direct financial loss for the factory. For instance, there was heavy rain in Trakya Region last years and the floods coming from the quarries was caused stoppage in Tekirdağ Cement Plant since the most of the factory infrastructure was submerged and the raw material supply was interrupted. In our country, which is located in the Mediterranean climate zone due to its geographical location, a large part of our forests are under fire threat, and 60% of the total forest area consists of first and second degree fire sensitive areas. For this reason, forest fires are among the priority issues in our country. We have regions defined as green areas in our factories. There is a high probability of fire in the green areas of our factories, naturally or as a result of carelessness. In the event of a fire, production activities in our factories will cease, and this will cause us to suffer financial losses.
Three scenarios have been determined and these are fire, flood and drought.

For the fire scenario that may occur in our seven integrated factories; the cost of an average of 5 days of downtime when foreseeing the factory downtime due to the fire extinguishing operation and the units and equipment affected by the fire; 39472040,13 TL
The average cost of a 3-day shutdown in order to eliminate the disaster in question for the flood scenario that may occur in our Thrace and Kilis factories and to reactivate the factory; 8.578.035,69 TL
For the drought scenario that may occur in our Şanlıurfa and Kilis plants, which may experience water stress; It takes an average of 2 weeks for the process of drilling a new water well or connecting to the mains water, and since the operation will be interrupted, average. cost; It was calculated as 39.641.804,45 TL.
The average 20-day cut-off cost predicted for the earthquake scenario that may occur in our Balıkesir, Ş.urfa, Kilis, Kurtalan and Ergani factories, which are at risk of earthquakes; It was calculated as 86,544,048.35 TL.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
174235928

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The approxiamate hourly cost of the factory was recevied from the process department and the financial loss due to this stoppage was calculated. The average stoppage period was considered as 5 days (App. 120 hours).The amount of total stoppage period was multiplied with the hourly cost and the potential impact figure is calculated.

Cost of response to risk
42379659

Description of response and explanation of cost calculation
The management of these risks is carried out in line with the standard requirements that cover the activities and processes of Limak Cement locations. Insurance policies have been created to cover the financial losses of all personnel and visitors affected by business activities, subcontractors, supplier personnel from whom services are purchased, all related parties, that may be caused by natural disasters or potential natural disasters during their activities.

Comment

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Other, please specify (Use of Alternative Fuel Sources)

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
The use of alternative fuel sources such as RDF and biomass could provide an opportunity to decrease the CO2 emission and cost of fuel supply but it requires a continuous supplier to prevent any interruption in operation. The RDF and biomass manufacturing plants should be popularized in Turkey since the current number of the plants are not feasible for this type of integration. However, this system could be used as optional source for the fuel.
As Limak Cement Group, we completed our AF Feeding system investment in 2022 in order to reduce our GHG emissions and contribute to the circular economy, and in order to reduce fuel-related CO2 emissions in line with our Net zero carbon target for our Anka factory. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emission and high biomass content, tire wastes and fuels derived from industrial waste have started to be used as alternative fuels. (RDF usage in 2022 for our Anka factory is 8071,67 tons)
Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Similarly, Alternative Fuel Use was increased by 46% compared to the previous year. (20,452 tons/dry). With the use of Alternative Fuel, 10,305.75 tons of imported lignite consumption in 2021 and 12,961.74 tons of imported lignite in 2022 was prevented. Second tire shredder investments in our Trakya factory will be commissioned in 2023.
In 2023, our investments in Alternative Fuel Feeding system will be realized in our Kilis and Balıkesir plants. In the works carried out on behalf of Limak Cement and in

cement production stages, in accordance with the current regulations on secondary fuels and alternative raw materials, in order to save natural resources and energy and to make a profit for the facility, to conduct waste market research and analysis, and to provide healthier negotiations with supplier companies. fuels and alternative raw materials unit was established.
Also, the current fuel sources are decreasing day by day and it will cause a competitive environment in future so alternative raw material source could provide great opportunity in long term.

Time horizon
Medium-term

Likelihood
Very likely

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)
92967302

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The financial impact is calculated using the unit price of RDF and all other Alternative fuels at our existing factories in Kırklareli and Ankara provinces of Türkiye.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation
The use of alternative fuels could provide both financial and environmental development opportunity for the Group since the current and further regulations are mostly focus on this type of industrial symbiosises to reduce the waste and emission amount. The cost of the currently used fuels are mostly higher than those alternative fuels.

Comment
The use of alternative fuel should be popularized and encouraged since it is one of the wise sustainable solution to mitigate the cilmate related risks without any loss of energy or source.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Upstream

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Other, please specify (Use of Alternative Raw Materials)

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
The alternative additive materials usage for less clinker usage to decrease CO2 emission could provide significant opportunity for the Group. The R&D department should follow the international developments on less carbon emitting clinker manufacturing methodologies and decrease in clinker amount for cement manufacturing. The most of the carbon emissions occur in clinker production phase so any mitigation strategy for that operation could provide significant benefit especially against further carbon pricing developments. Also, the current raw materials are decreasing day by day and it will cause a competitive environment in future so alternative raw material source could provide great opportunity in long term.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
19886630

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Usage of alternative raw materials is very important for the low carbon cement production. With the help of the alternative mineral additive materials for less clinker usage CO2 emission could decrease to a desired amount which provide significant opportunity for the Group. The R&D department is constantly researching innovative technologies and international developments on less carbon emitting clinker manufacturing methodologies

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation
The climate related risks and resource efficiency are inevitable concepts for future operations so creating alternatives and mitigation strategies will provide significant benefits for the lifetime of operations.
In the last quarter of 2022, alternative raw materials started to be used in our Kilis factory. In cement production, the wastes of iron and steel factories and fly and bottom ash from thermal power plants were used as alternative raw materials instead of natural resources within the scope of the ETA certificate, and the goal of environmentally friendly production was maintained by recycling industrial wastes. Thus, 5 of our 7 integrated factories have switched to the use of alternative raw materials in order to reduce natural resource consumption. A transition to the use of alternative raw materials is planned for our other factories as well.
Between 2017 and 2022, the total amount of alternative raw material usage is 693.140,48 tonnes and it provides 693.140,48 tonnes savings from natural raw material usage. This also provides 693.140,48 m3 saving from storage area. In 2022, the amount of raw material usage is calculated as 287.961,33 tonnes. There is a 51% increase in ARM usage compared to the previous year.
Within the scope of “Responsible Production and Consumption” (SKA-12), one of the UN Sustainable Development Goals, Limak Kilis Cement's product studies, in which environmentally friendly alternative additives can be used, are carried out with the support of a 17025 TURKAK accredited ready-mixed concrete laboratory. Limak Trakya Cement continued to use wood ash instead of clay, boiler slag and boiler ash instead of bauxite in clinker production in order to protect natural resources without compromising product and environmental quality through the use of alternative raw materials. Limak Balıkesir Cement, within the scope of using alternative raw materials in clinker production, reduces the consumption of raw material resources by using the wastes of iron and steel factories, marble wastes, wastes of shipyards and casting sands instead of natural resources. However, in cement production, the bottom ash from thermal power plants was used together with phosphogypsum within the scope of the ETA certificate, and the goal of recycling industrial wastes was maintained. Within the scope of Alternative Fuels, wastes such as treatment sludge, plastic waste and waste oil started to be used as additional fuel.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of new technologies

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
The cement sector has continuous energy demand to maintain its operations and the most of this demand was met by using the fossil fuels in global manner. This causes increase in carbon emission levels together with the increase in manufacturing capacity of the sector so the low carbon emission technologies are getting much more important to decrease the emitted carbon amount. Carbon Capture, Use and Storage (CCUS) is a technique for trapping carbon dioxide emitted from large point sources such as power plants, compressing it, and transporting it to a suitable storage site where it is injected into the ground. This technology has significant potential to help mitigate climate change both in Europe and internationally, particularly in countries with large reserves of fossil fuels and a fast-increasing energy demand. The amine washing process which is the most mature technology does not offer sufficient performance today to capture CO2 after combustion. Various technologies at different maturity and performance levels can be envisaged for the capture of CO2 (eg oxyfuel combustion, refrigerated ammonia technology, adsorptive processes, calcium cycling, etc.). Almost, all climate plans integrate CCUS into the equation, but R&D studies are still needed for these plans to be feasible. As Limak Cement Group, we are following the developments on the CCUS closely and planning the implement most feasible method to systems near future. In addition, several meetings are held with various governmental institutions and associations on map of the carbon storage areas generation in Turkey.
All new technologies produced in order to reduce the CO2 level in the cement sector are followed by the "Carbon Reduction Strategy Committee" that we established in 2023. In this context, CEO of the said committee, Surd. And Climate Change. Engineer, Business Development Specialist, R&D and Innovation Leader and Deputy Group Process Director attended the Carbon capture, storage and use seminar held in Copenhagen, Denmark on 16-17 May 2023. At the same time, the Group's Sustainability and Climate Change Chief, Group Process Deputy Director and R&D and Quality Manager participated in the “Carbon Capture” seminar held in Amsterdam, the Netherlands on 26-27 June 2023.
Energy efficiency investments evaluate current and future trends on current issues at Investment Meetings.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure

Cost to realize opportunity
728000000

Strategy to realize opportunity and explanation of cost calculation
This investment consists of CAPEX investments to increase renewable energy in our Ergani, Kurtalan, Derik, Şanlıurfa cement factories. The cost is the total CAPEX for projects implemented and initiated according to our 2030 Sustainability Goals, which includes our CO2 reduction Roadmap, by reducing energy generation from fossil fuels such as coal and petroleum coke, which are included in the non-renewable energy group, and using renewable solar energy sources instead. We think that this opportunity will gradually increase in the future in terms of financial figures.

Comment

Identifier
Opp4

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of recycling

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
R&D studies are conducted to recycle construction and demolition waste and re-use it in various application areas. Studies have been carried out to recycle these wastes with various technologies and use them in both cement and concrete production. It is aimed to include recycled materials back into the system by using advanced technologies such as 3D printers. In this way, the product portfolio will be expanded by introducing new innovative products to the market.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Comment
R&D studies are conducted to recycle construction and demolition waste and re-use it in various application areas. Studies have been carried out to recycle these wastes with various technologies and use them in both cement and concrete production. It is aimed to include recycled materials back into the system by using advanced technologies such as 3D printers. In this way, the product portfolio will be expanded by introducing new innovative products to the market.

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan
Yes, we have a climate transition plan which aligns with a 1.5°C world

Publicly available climate transition plan
No

Mechanism by which feedback is collected from shareholders on your climate transition plan
We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

Description of feedback mechanism
<Not Applicable>

Frequency of feedback collection
<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)
Limak cement 2023-2050.pdf

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future
<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: IEA APS	Other, please specify (Global)	<Not Applicable>	As Limak Cement Group, we used our own data and other industry-related data to analyze current and future risks and opportunities for our operations. Since carbon emission is the most important climate-related risk, especially for the cement sector, the Turkish government is committed to emphasizing climate action, including climate-related targets to reduce greenhouse gas emissions, policies and measures that governments aim to implement in response to climate change, and to highlight the global implications of the Paris Agreement. As a contribution to the achievement of the targets, the carbon reduction target, which was declared as 21% in the Turkey's INDC 2015 based on 2012, was updated as 41% at the COP 27 meeting held in November 2022. According to this report, there is an overall carbon emission reduction target of 41% by 2030, but sectoral allocations are defined. Presidential Circular on the Action Plan, which is important in terms of protecting and strengthening our country's place in global supply chains and attracting green investments to our country, as well as improving our competitiveness in our exports and aiming to support green transformation in all relevant policy areas, was published in the Official Gazette dated 16.07.2021. In this framework, it is aimed to carry out the objectives and activities within the scope of the Action Plan effectively with the public, private sector and all relevant stakeholders within the scope of the European Green Consensus Working Group. In addition to these works of the Turkish Government, we, as the Limak Cement group, record the carbon emission values in each factory of our group and present the total number to the Ministry of Environment in the Sustainability Reports every year. In addition, carbon footprint is calculated for all factories in accordance with ISO 14064-1:2018 Standards and verified by an accredited verifier. Our carbon reduction strategy committee makes use of the 1.5 0C compliant guide prepared by SBTI for the cement industry while working on transition scenarios. Regarding the carbon pricing mechanism, the estimated unit prices in the World Bank document (approximately US$ 10/tCO2e) have been accepted for scenario analysis, as there is no specific price per unit of CO2 emissions.
Physical climate scenarios: RCP 2.6	Company-wide	<Not Applicable>	In order to be prepared for the consequences of climate change and to minimize its negative effects, it is necessary to predict how the observed changes and trends in the climate will be in the future and to determine the effects of these changes on natural and human systems. Models, which are mathematical representations of the components of the climate system, interactions and feedbacks between them, are used to understand observed and past climate and to predict future climate. Different scenarios are used in future climate predictions obtained through models. As Limak Cement Group, it is aimed to create a climate strategy plan based on these models, which were also expressed and examined in our carbon reduction strategy committee meetings. In this regard, SRES and RCPs are being examined. When SRES scenarios and RCPs are compared in terms of concentration values: It is seen that the RCP8.5 scenario has close values with A1F1 and A2, and the RCP6.0 scenario with A1B. It is located between RCP4.5 and RCP6.0 of the B2 and A1T scenarios. RCP4.5 shows parallelism with scenario B1. RCP3-PD(RCP2.6), on the other hand, is not compatible with any of the SRES scenarios. In order to understand climate change in the longer period, the RCP scenarios are extended and will continue until the end of 2300 simply and without relying on very mandatory criteria in terms of emission and concentration levels. (Meinshausen et al., 2011). In this context, for RCP 2.6 and RCP8.5, fixed CO2 emission and concentration levels are predicted after 2100, while RCP4.5 and RCP6.0; It predicts that CO2 emissions and concentrations will stabilize gradually up to 2150. RCP8.5 predicts that the CO2 concentration will only stabilize in 2250 at around 2000 ppm, almost 7 times the pre-industrial level. RCP3-PD(RCP2.6), on the other hand, predicts that emissions will begin to decrease after 2070, and accordingly, their concentrations will decrease over time up to 2300 and reach the level of 360 ppm.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Our main questions and subjects ; How to reduce harmful gas level during cement manufacturing, adopting new and environmentally friendly technologies and supporting existing projects in this regard, alternative fuels and raw materials, Developing greenhouse gas reduction strategies in line with the Paris Climate Agreement and the European Green Agreement, ways to increase renewable energy investment, developing different projects for the production of low-carbon products, defining the risks we may encounter in cement exports in the coming years, with the introduction of CBAM, and taking precautions in the coming years. To determine how much our estimated amount of emissions will decrease by 2030, together with the planned renewable energy investments and the production of low carbon products.

Results of the climate-related scenario analysis with respect to the focal questions

As Limak Cement R&D department, projects including industrial symbiosis and circular economy-based studies are among our priorities because of the awareness of its importance to ensure sustainability. Responsible use of resources and zero waste approach have gained great importance especially for the cement sector, where raw materials are used intensively and in high quantities. Therefore, as Limak , we have studies and trial production in which we are constantly looking for alternative raw materials with the aim of having a chance to prevent and/or reduce the problem of carbon emissions. Since the increase in greenhouse gas emissions, one of the triggers of the climate crisis, has a negative impact especially on the cement sector, the production of new green products and/or new production technologies that will lead to emission reduction are at the forefront of our R&D and innovation strategies. In our R&D projects, we aim to achieve the circular economy approach, by using the wastes from production of one sector as raw material or secondary raw material for another sector, that is, through industrial symbiosis. Accordingly, using the resources as long as possible by keeping them in the cycle is a model that provides energy savings and reduction of waste. With this awareness, R&D strategies of Limak have been determined to cover industrial symbiosis, circular economy, alternative raw materials, carbon capture and evaluation technologies, industry 4.0 and digital transformation thus sustainability targets have been established. The ultimate goal of Limak within the scope of R&D studies is to ensure and maintain the production of innovative green cement and concrete. While achieving this goal, cooperation with other energy-intensive sectors in order to support the circular economy through industrial symbiosis, cooperation with technology developers on energy efficiency within the scope of production system optimization, and administrative processes carried out with information providers to fully manage digital transformation processes can be listed as the main ways.

As the carbon pricing is getting more real, unique technological investments will need to be made for each facility, thanks to the diversification of the regulations on the production of low-carbon products. Innovative technologies for alternative fuels will be integrated into the systems and new technologies will take place in the systems for the production of cement with low clinker content. Based on the financial evaluations after adding it to the business plan, necessary supports are provided to the R&D studies. Thanks to the projects carried out in the R&D center, innovative cements produced using alternative materials have proven to have low carbon properties.

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	Together with the increase in climate related risks, implementation of certain mitigation strategies become compulsory in global manner. The carbon pricing mechanism is major short term risk for the cement sector since it will cause extra burden for the cement companies in anyway but the proper design and implementation of this mechanism could provide great opportunity for the fight given against the climate related risks. The R&D studies should be accelerated to decrease the clinker use in cement production since most of the carbon emission occurs during the clinker production phase. The importance of raising customer awareness as well as R&D strategies should not be forgotten. As customers' awareness of climate change increases, they will prefer low carbon products in their projects. As the Limak Cement group, we expanded our own strategies as a result of the strategies for greenhouse gas reduction that came with the European Green Deal and the Paris climate agreements. We are working in our laboratory, which has recently become an "R&D Center" for "Low Carbon" products. Determining the amount of greenhouse gas emissions by making carbon footprint calculations and taking greenhouse gas reduction measures by determining possible risks are among our works.
Supply chain and/or value chain	Yes	The use of alternative fuel sources such as RDF and biomass could provide an opportunity to decrease the CO2 emission and cost of fuel supply but it requires a continuous supplier to prevent any interruption in operation. The RDF and biomass manufacturing plants should be popularized in Turkey since the current number of the plants are not feasible for this type of integration. However, this system could be used as optional source for the fuel. As Limak Cement Group, we completed our AF Feeding system investment in 2022 in order to reduce our GHG emissions and contribute to the circular economy, and in order to reduce fuel-related CO2 emissions in line with our Net zero carbon target for our Anka factory. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emission and high biomass content, tire wastes and fuels derived from industrial waste have started to be used as alternative fuels. Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Second tire shredder investments in our Trakya factory will be commissioned in 2023. The supply chain department is developing new strategies in order to procure alternative fuels with the most suitable properties at the lowest price. Limak cement is aware that the challenge of climate change requires cooperation at various levels. Reducing the ecological footprint within the scope of efforts to combat climate change is at the forefront of our focus. We are continuing our efforts to ensure the continuity of harmonization with the 2030 Sustainable Development Goals published by the United Nations, and to place the awareness of “Responsible Production Consumption” (SKA 12) from the UN Sustainable Development Goals at the center of all fields by playing an active role in the GRI reporting process. For example; An online seminar on Sustainability was held at the Limak Cement Group in cooperation with Bilecik University in Turkey.
Investment in R&D	Yes	The R&D investments are required to be increased for alternative raw material and fuel studies. The less clinker more additive usage is the major R&D strategy conducted within the scope of mitigation of climate related risks. The Paris Agreement and European Greeen Deal promotes alternative fuel and raw material usage to be able to decrease carbon emissions. R&D studies have huge importance to implement those strategies in the production without any loss in the current properties of the products. Studies are conducted to evaluate the usability of fly ash, bottom ash and synthetic gypsum from thermal power plants in cement and concrete production through an effective way in R&D activities. Two products of Limak Cement enabling the use of bottom ash as additive in the cement were certified with European Assessment Documentation (ETA) by European Organization for Technical Assessment (EOTA) in 2019 as a first in our country and in member states of the European Union. These R&D studies are not only carried out in the laboratory, but also have trials on an industrial scale. For this reason, material and moral supports made in R&D and low-carbon cement production gain great importance. For this purpose, an R&D center was established in 2022 at Limak Cement Group. The priorities of the published R&D strategies are studies on carbon reduction and CCUS. Related project team are formed and collaborations are established within these two important issues. As a result of the application to the Ministry of Industry and Technology, R&D department were entitled to become a registered R&D Center on 05.10.2022. R&D team work in areas such as product and system improvement, innovative technologies such as 3D concrete printers, carbon reduction, circular economy and digital transformation principles within the scope of industrial symbiosis. This center will be the new platform where Limak Cement will carry out the necessary works to reduce emissions in line with the 2050 Net Zero Carbon targets with a carbon capture and zero waste approach.
Operations	Yes	The low carbon emission is required to be considered in all phases of the cement production to be able to mitigate the climate related risks. The replacement of the raw materials and fuel will cause some changes in process but it will be an acceptable change by considering the decrease in emissions. The best available technologies should also be constantly followed for their integration into the current 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	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital	Rapid changes experienced in the last 2 years on economic, social and environmental domains as a result of the recent developments in the agenda of Turkey and the world have showed us that the sustainability dynamics have a structure prone to constant changes. Based on our leadership mission, we have revised our sustainability approach declared in order to act in passion and dedication in sustainability.Limak Group of Companies believes that a sustainable economic development is only feasible with an inclusive approach in case one has environmental and social awareness and on a healthy planet. Due to the increase in climate related risks in our era, together with the financial aspects, environmental aspects of the investments are also taken into consideration during the feasibility studies. The existing factories are redesigned or remediated to be able to emit less pollutants during the whole phases of operations. The alternative raw material and fuel sources are the major strategies focused on to be able to mitigate the current carbon emissions. Turkey is preparing to implement a carbon pricing mechanism in following years as requirements of Paris Climate Agreement and Green Deal and it will cause an obvious burden to the cement sector so the less carbon emission will alleviate this burden if it is properly implemented. The cost of the alternative fuels such as RDF and biomass is less compared to currently used fossil fuel so this could be considered as an opportunity also. The development and implementation of climate change and sustainability strategies provides reputation to the companies during their financial attempts such as grant, loan and credit applications, new project developments and so on. Direct Cost: The Risk Identification Team within the structure of our decarbonization committee is responsible for identifying the risks that will arise from the ETS Lending process. At the same time, it is responsible for monitoring the global carbon market where carbon is traded and analyzing its possible effects and risks on us. From this point of view, the Risk Identification Team plays a role in determining the risks regarding whether any future investment by the Limak Cement Group is within the scope of green financing. It is among the duties of determining the benefits and risks provided to us by the loan to be used in case the said investment is within the scope of green financing. The Risk Identification Team regularly visits various websites in Turkey and around the world in order to follow the developments on the CBAM in accordance with its business plan. (European Commission Website, Ministry of Environment, Urbanization and Climate Change Website etc. channels) Changes in taxation systems and their possible effects on Limak Cement in the process of harmonization with the CBAM of countries that supply raw materials and fuels abroad are routinely followed up in accordance with the business plan. Data flow can be achieved by following the developments and announcements regarding the CBAM via telephone or e-mail through the suppliers and various websites. The Risk Identification Desk determines possible risks by accessing CEMBUREAU (European Cement Union) announcements regarding carbon, European Union Commission Announcements, reviewing legislation in Turkey and all other carbon-focused developments through the relevant websites and channels. In order to collect data, websites are visited where updated informations regarding carbon reduction in the world and in Turkey are shared and various announcements are made. Direct costs, indirect costs, capital expenditures, purchasing processes, and access to capital planning are carried out regularly in accordance with the business plan, according to the operation of the aforementioned legislation and the follow-up of the announcements.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with a sustainable finance taxonomy	At the company level only

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.

Financial Metric
CAPEX

Type of alignment being reported for this financial metric
Please select

Taxonomy under which information is being reported
<Not Applicable>

Objective under which alignment is being reported
<Not Applicable>

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)
51477289

Percentage share of selected financial metric aligned in the reporting year (%)
5

Percentage share of selected financial metric planned to align in 2025 (%)

Percentage share of selected financial metric planned to align in 2030 (%)

Describe the methodology used to identify spending/revenue that is aligned
Second tire shredder investments in our Trakya factory will be commissioned in 2023.

C3.5c

(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.

C4. Targets and performance

C4.1

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

C4.1b

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

Target reference number
Int 1

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition
2°C aligned

Year target was set
2011

Target coverage
Business activity

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Intensity metric
Other, please specify ((Metric tons of CO2 per metric tons of clinker))

Base year
2008

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
868

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
46

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
914

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2030

Targeted reduction from base year (%)
17.83

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
751.0338

% change anticipated in absolute Scope 1+2 emissions

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
851

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
31

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
882

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
19.6359735945245

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
Within the framework of our 2030 targets, we aim to reduce our Scope 1+ Scope 2 emissions by approximately 18% by producing cement products with low clinker use and increasing our renewable energy investments.
In addition, one of our product called CEM PLUS+ which is one of the works we have done to reduce our Scope 1 emissions and reduces the carbon footprint thanks to its mineral additive content. This type of cement, which is produced in our Balıkesir, Ankara and Kilis factories, is used in high concrete class products. With the CEM Plus(+) product, the clinker usage rate has been reduced by 5%.

Plan for achieving target, and progress made to the end of the reporting year
Under the leadership of our CEO, the "Carbon Reduction Strategy Committee" has been established in order to determine policies that will reduce the greenhouse gas emission of the Limak Cement group, to develop strategies compatible with the climate targets accepted by the European Union Commission, and to take precautions

against the risks that may be brought by CBAM and other mechanisms in the coming years.
The group consists of the Group Sustainability and Climate Change Manager and the Deputy Group Process Director as representatives in the committee. Since the work carried out in the committee is very comprehensive, the committee members; It consists of various departments from financial reporting unit to business development, from Sustainability and climate change unit to R&D and Innovation unit. Developing greenhouse gas reduction strategies in line with the Paris Climate Agreement and the European Green Deal, increasing renewable energy investments, monitoring the carbon capture and storage projects planned to be implemented in the cement sector in the world, determining their applicability to our own facilities, and researching ways to reach financing sources for such projects, Developing different projects for the production of low carbon products, defining the risks we may encounter in cement exports in the coming years with the introduction of CBAM, taking precautions, determining how much our estimated emission amount will decrease until 2030 with the renewable energy investments planned to be made in the coming years and the production of low-carbon products. etc.studies constitute the main agenda items of this committee.
Two separate teams were formed from the members of the committee, namely calculating greenhouse gas emissions and determining risk. As Limak Cement Group, we aim to determine our 2030 road map under the activities of the "Carbon Reduction Strategy Committee". The Committee meets every two weeks under the Chairmanship of the CEO and the studies and new roadmaps are discussed.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Int 2

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition
2°C aligned

Year target was set
2008

Target coverage
Business activity

Scope(s)
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Intensity metric
Other, please specify ((Metric tons of CO2 per metric tons of cement))

Base year
2008

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
46

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
46

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2030

Targeted reduction from base year (%)
67.39

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
15.0006

% change anticipated in absolute Scope 1+2 emissions

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
31

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
31

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
48.3880333167739

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
Within the framework of our 2030 targets, we aim to reduce our Scope 2 emissions by approximately 67% by increasing our investments in renewable energy and energy efficiency.

Plan for achieving target, and progress made to the end of the reporting year
The feasibility studies of the SPP project with a total installed power of 34.75 MW for our Kurtalan, Şanlıurfa, Derik and Ergani power plants have been completed. Pre-feasibility studies of the 6MW WHR project in our Trakya factory have been completed. In this way, it is aimed to reduce carbon emissions. The annual CO2 gain obtained from the Solar Power Plant projects in our Kurtalan, Şanlıurfa, Derik and Ergani facilities has been calculated as approximately 32,456 tons CO2/year. The annual CO2

gain of the 6MW WHR project designed in our Limak Trakya factory has been calculated as 6089 tons of CO2. In 2021, energy efficiency studies on asynchronous motors were completed in our Trakya, Bitlis and Derik factories. In this context, compensation system applications have been carried out in low voltage direct start motors to increase energy efficiency in motors. In this way, energy gain is achieved by creating a 15-20% reduction.
At the same time, new investment decisions are taken in the fields of renewable energy and energy efficiency within the body of the Carbon Reduction Strategy Committee established within the body of Limak Cement. In this way, it is aimed to reduce our scope 2 emissions by reducing electricity consumption.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Int 3

Is this a science-based target?
Yes, we consider this a science-based target, but we have not committed to seek validation of this target by the Science Based Targets initiative within the next two years

Target ambition
2°C aligned

Year target was set
2023

Target coverage
Company-wide

Scope(s)
Scope 3

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
Category 1: Purchased goods and services
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 4: Upstream transportation and distribution
Category 5: Waste generated in operations
Category 6: Business travel
Category 7: Employee commuting
Category 9: Downstream transportation and distribution
Category 11: Use of sold products
Category 12: End-of-life treatment of sold products

Intensity metric
Metric tons CO2e per metric ton of cement

Base year
2022

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
109458

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
398646

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
92360

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
304

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
1159

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
1517

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
356180

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
8324

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
6049

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)
974000

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure
11

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure
41

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure
10

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure
0.03

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure
0.12

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure
0.16

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
36

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
0.85

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
0.62

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
100

% of total base year emissions in all selected Scopes covered by this intensity figure

Target year

Targeted reduction from base year (%)

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
<Calculated field>

% change anticipated in absolute Scope 1+2 emissions

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
109458

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
398646

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
92360

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
304

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
1159

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
1517

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
356180

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
8324

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
6049

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)
974000

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

Does this target cover any land-related emissions?
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]
<Not Applicable>

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
In 2023, our corporate carbon footprint calculations within the scope of ISO 14064-1 throughout the group have been verified by a 3rd party accredited institution. The data covers the year 2022.We aim to reduce our Scope 1+ Scope 2 emissions by approximately 18% by producing cement products with low clinker use and increasing our renewable energy investments within the framework of our 2030 targets. Also, within the framework of our 2030 targets, we aim to reduce our Scope 2 emissions by approximately 67% by increasing our investments in renewable energy and energy efficiency. In addition, one of our product called CEM PLUS+ which is one of the works we have done to reduce our Scope 1 emissions and reduces the carbon footprint thanks to its mineral additive content. This type of cement, which is produced in our Balıkesir, Ankara and Kilis factories, is used in high concrete class products. With the CEM Plus(+) product, the clinker usage rate has been reduced by 5%.

Plan for achieving target, and progress made to the end of the reporting year
On the subject of energy efficiency; Modernization studies were carried out at the Ergani Plants in Şanlıurfa between 2008 and 2011 within the scope of the group's efficiency improvement activities. In 2011, Ankara, Balıkesir and Trakya factories were purchased from Italicement Group and the existing system was increased in capacity and modernized. Until 2019, new technology equipment investments were made in these facilities to increase energy efficiency and reduce environmental impacts

arising from our activities. Anka Cement Factory and Kilis Cement Factory, equipped with advanced production technologies, were commissioned. This new technology equipment provides less emissions, less energy consumption and less maintenance costs by providing intermittent operation. Trakya Cement Factory is equipped with an alternative fuel use system and provides low carbon emissions. In 2021, energy efficiency studies on asynchronous motors were completed in our Trakya, Bitlis and Derik factories. In this context, compensation system applications have been carried out in low voltage direct start motors to increase energy efficiency in motors. In this way, energy gain is achieved by creating a 15-20% reduction. In this way, energy gain is achieved by creating a 15-20% reduction.
Relations with suppliers; As Limak Cement, we adopt sustainability as a business model and strive to fulfill our responsibility for our planet and sustainable life in the best way possible. In this context, a sustainability survey was conducted for all our stakeholders in order to determine the priorities of our sustainability strategies. For example, a survey was conducted with 154 internal stakeholders and 79 external stakeholders. Online trainings have been determined through the Limak Cement Academy system in order to help our stakeholders adopt the most important sustainability issues today and in the future. Trainings will be given in 2023.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Target(s) to increase low-carbon energy consumption or production
Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number
Low 1

Year target was set
2018

Target coverage
Business activity

Target type: energy carrier
Other, please specify (Alternative Fuel)

Target type: activity
Consumption

Target type: energy source
Low-carbon energy source(s)

Base year
2018

Consumption or production of selected energy carrier in base year (MWh)
4152

% share of low-carbon or renewable energy in base year
0

Target year
2030

% share of low-carbon or renewable energy in target year
15

% share of low-carbon or renewable energy in reporting year
0

% of target achieved relative to base year [auto-calculated]
0

Target status in reporting year
Underway

Is this target part of an emissions target?
Yes, process criteria are followed in the target table.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
As Limak Cement Group, we completed our AF Feeding system investment in 2022 in order to reduce our GHG emissions and contribute to the circular economy, and in order to reduce fuel-related CO2 emissions in line with our Net zero carbon target for our Anka factory. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emission and high biomass content, tire wastes and fuels derived from industrial waste have started to be used as alternative fuels. (RDF usage in 2022 for our Anka factory is 8071,67 tons)
Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Similarly, Alternative Fuel Use was increased by 46% compared to the previous year. (20,452 tons/dry). With the use of Alternative Fuel, 10,305.75 tons of imported lignite consumption in 2021 and 12,961.74 tons of imported lignite in 2022 was prevented. Second tire shredder investments in our Trakya factory will be commissioned in 2023.
In 2023, our investments in Alternative Fuel Feeding system will be realized in our Kilis and Balıkesir plants. In the works carried out on behalf of Limak Cement and in cement production stages, in accordance with the current regulations on secondary fuels and alternative raw materials, in order to save natural resources and energy and to make a profit for the facility, to conduct waste market research and analysis, and to provide healthier negotiations with supplier companies. fuels and alternative raw materials unit was established.
Also, the current fuel sources are decreasing day by day and it will cause a competitive environment in future so alternative raw material source could provide great opportunity in long term.

Plan for achieving target, and progress made to the end of the reporting year

List the actions which contributed most to achieving this target
<Not Applicable>

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
2023

Target coverage
Product level

Target type: absolute or intensity
Absolute

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

Resource consumption or efficiency	Other, please specify (Tons of clinker consumed in our concrete products)

Target denominator (intensity targets only)
<Not Applicable>

Base year
2022

Figure or percentage in base year
0

Target year
2030

Figure or percentage in target year
17.8

Figure or percentage in reporting year
0

% of target achieved relative to base year [auto-calculated]
0

Target status in reporting year
New

Is this target part of an emissions target?
The target we set is the emission reduction target. Since 2022 was chosen as the base year, the percentage of the target achieved was 0. Within the framework of our 2030 targets, we aim to reduce our Scope 1+ Scope 2 emissions by approximately 18% by producing cement products with low clinker use and increasing our renewable energy investments.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
Since 2022 was chosen as the base year, the percentage of the target achieved was 0. In order to achieve the stated goal, we will proceed through our low carbon cement roadmap based on the targets of reducing the use of clinker in cement production, CCUS technologies, waste heat energy recovery, alternative fuel use, green energy, process improvements, inclusive employment and skills, R&D studies, trade models and circular economy.

Plan for achieving target, and progress made to the end of the reporting year
We have an investment plan for the emission target reductions we have determined. We have RDF feeding system and calciner waste oil system in our Balıkesir factory, fly ash silo and RDF feeding system in our Kilis factory, tire crushing machine (Shredder) in our Trakya factory, feed modification of the waste oil system, RDF feeding system investment, Solar Energy projects, WHR projects etc.

List the actions which contributed most to achieving this target
<Not Applicable>

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		
To be implemented*		
Implementation commenced*		
Implemented*	13	96959
Not to be implemented		

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)
96959

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2409017

Investment required (unit currency – as specified in C0.4)
2093862

Payback period
1-3 years

Estimated lifetime of the initiative
>30 years

Comment
Within the scope of the group's productivity improvement efforts, modernization studies were carried out in Ergani Plants in Şanlıurfa between 2008-2011. In 2011, Ankara, Balıkesir and Trakya factories were made an acquisition from Italicement Group and the existing system was increased in capacity and modernized. Until 2019, new technology equipment investments were made in these facilities to increase energy efficiency and reduce environmental impacts arising from our activities. Anka Cement Factory and Kilis Cement Factory, equipped with advanced production technologies, were commissioned. This new technology equipment provides less emissions, less energy consumption and less maintenance costs by providing intermittent operation. Trakya Cement Factory and Anka Cement Factory are equipped with alternative fuel usage system, provides low carbon emissions. In 2021, energy efficiency studies on asynchronous motors were completed in our Trakya, Bitlis and Derik factories. In this context, compensation system applications have been carried out in low voltage direct start motors to increase energy efficiency in motors. In this way, a 15-20% reduction will be created and energy gain will be achieved.

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	The major carbon emission occurs during the clinker production phase so carbon emission reduction could be achieved with the developments in blended cement production. Studies are conducted to evaluate the usability of fly ash, bottom ash and synthetic gypsum from thermal power plants in both cement and concrete production. For some of our R&D projects related with blended cement production by using wastes of other energy-intensive industries, we made collaboration with Hacettepe University. The studies carried out in this concept have generally focused on the evaluation of the waste materials of mining sector (mine tailings) in cement and concrete production. Towards a circular economy, mine tailings have the potential to be transformed from a significant environmental burden into valuable resources through the recovery, reprocessing and reuse in a variety of applications. The biggest carbon emission occurs at the clinker production stage, therefore, carbon emission reduction can be achieved with improvements in the clinker production process. Studies are carried out to evaluate the usability of fly ash, bottom ash and synthetic gypsum obtained from thermal power plants by cement manufacturers with an effective quality management process in R&D activities. Two products of Limak Cement, which enables bottom ash to be used as an additive in cement, were certified with the European Evaluation Documentation (ETA) in 2019 by the European Technical Assessment Agency (EOTA), a first in our country and in the member states of the European Union.
Dedicated budget for other emissions reduction activities	In 2018, an Alternative Fuel Supply System was put into operation at the Trakya plant, reducing fossil fuel use in clinker production, thus restoring industrial-derived waste. In addition, the decrease in foreign exchange output due to fuel imports was recorded.In 2023, Limak Cement will continue to increase the amount of alternative fuel use by accelerating investments in alternative fuel systems (reducing fossil fuel use). As Limak Cement Group, we completed our AF Feeding system investment in 2022 in order to reduce our GHG emissions and contribute to the circular economy, and in order to reduce fuel-related CO2 emissions in line with our Net zero carbon target for our Anka factory. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emission and high biomass content, tire wastes and fuels derived from industrial waste have started to be used as alternative fuels. (RDF usage in 2022 for our Anka factory is 8071,67 tons) Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Similarly, Alternative Fuel Use was increased by 46% compared to the previous year. (20,452 tons/dry). With the use of Alternative Fuel, 10,305.75 tons of imported lignite consumption in 2021 and 12,961.74 tons of imported lignite in 2022 was prevented. Second tire shredder investments in our Trakya factory will be commissioned in 2023. Also, in 2023, our investments in Alternative Fuel Feeding system will be realized in our Kilis and Balıkesir plants. In the works carried out on behalf of Limak Cement and in cement production stages, in accordance with the current regulations on secondary fuels and ARM, in order to save natural resources and energy and to make a profit for the facility, to conduct waste market research and analysis, and to provide healthier negotiations with supplier companies. fuels and ARM unit was established. In order to protect natural resources, the use of waste which may be an ARM in clinker production continues effectively in all factories.
Dedicated budget for energy efficiency	The feasibility studies of the SPP project with a total installed power of 34.75 MW for our Kurtalan, Şanlıurfa, Derik and Ergani power plants have been completed. Waste feeding system in our Anka factory and tire shredder investments in our Trakya factory were made and they were put into use in the last quarter of 2022. In the same term, fuel derived from waste started to be used in our Anka factory. The pre-feasibility studies of the 6MW WHR project in our Trakya factory have been completed. In this way, it is aimed to reduce carbon emissions. The annual CO2 gain obtained from the Solar Power Plant projects in our Kurtalan, Şanlıurfa, Derik and Ergani facilities has been calculated as approximately 32,456 tons CO2/year. The annual CO2 gain of the 6MW WHR project designed in our Limak Trakya factory has been calculated as 5,604 tons of CO2. Balıkesir factory RDF feeding system and calciner waste oil system, We have many more decarbonizaton projects going on such as ; Kilis factory fly ash stocks and RDF feeding system, our Trakya factory tire crushing machine (Shredder), waste oil system feeding modification, RDF feeding system investment, SPP projects, WHR, coal transfer blower improvements, technological pool showering pumps improvement, technological pool tower pumps improvement etc. WHR project contributes to the production of clean energy within the plant instead of energy purchased by the enterprise and further contributes to reducing the energy produced by fossil fuels outsourced and generated in power plants in the same amount.The carbon reduction of WHR with an installed capacity of 4.5 MW was calculated using the CO2 saving factor of the unit electricity in clean energy production as opposed to the fossil energy determined by UK Department of Environment Food and Rural Affairs (DEFRA). Accordingly, the annual carbon reduction contribution (YKAK) of the enterprise is calculated as 19.316, 88 t CO2 / y. It is assumed that 1 tree absorbs 12 kg of CO 2 per year, and accordingly, CO2 savings achieved by 4.5 MW of WHR per year is equivalent to CO 2 absorption of approximately 1.6 million trees. The amount of CO2 savings achieved reinforces steps towards greenhouse gas emission reduction and management of climate change risks.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (ETA Document provided by EOTA)

Type of product(s) or service(s)

Cement and concrete	Other, please specify (A type of cement (CEM PLUS+))

Description of product(s) or service(s)
Thanks to its mineral additive content, Limak CEM PLUS+, which reduces the carbon footprint from the Turkish Patent Institute, and the ETA Certificate provided by EOTA for our cement product range are produced in Balıkesir, Kilis. and Anka factories and high concrete class products. With the CEM Plus(+) product, the clinker usage rate is reduced by 5%. The sales amount of TS EN 197-1:2012 CEM PLUS + 52.5 at Kilis Factory is 299.355 tons, and the total cement sales amount of the factory is 1.598.913 tons. The percentage of the sales amount of CEM PLUS + 52.5% in Kilis Factory is 18.7% and 3.8% throughout the Group.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
14.3

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (Approved by Turkish Patent Institute)

Type of product(s) or service(s)

Cement and concrete	Other, please specify (A type of cement (CEM PLUS+))

Description of product(s) or service(s)
The sales amount of TS EN 197-1:2012 CEM PLUS + 42.5 at the Anka Factory is 662.643 tons, and the total cement sales amount of the factory is 1.411.407 tons. The percentage of sales of CEM PLUS + 42.5 at the Anka Factory is 46.9 % and 8.4% throughout the Group.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario

<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
8.4

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (ETA Document provided by EOTA)

Type of product(s) or service(s)

Cement and concrete	Other, please specify (A type of cement (CEM PLUS+))

Description of product(s) or service(s)
The sales amount of TS EN 197-1:2012 CEM PLUS + 42.5 at the Balıkesir Factory is 167.883 tons, and the total cement sales amount of the factory is 757.904 tons. The percentage of sales of CEM PLUS + 42.5% at the Balıkesir Factory is 22.2% and 2.1% across the Group.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
2.1

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	100
Pre-calciner	73

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
No

Name of organization(s) acquired, divested from, or merged with
<Not Applicable>

Details of structural change(s), including completion dates
<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in boundary	In 2023, Carbon Footprint calculations were made according to ISO 14064-1 Standard for our 7 integrated factories and verified by a 3rd party verifier.

C5.1c

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Row 1	No, because the operations acquired or divested did not exist in the base year	<Not Applicable>	As Limak Cement Group, we have not made any changes regarding our scope 1, scope 2 and scope 3 emissions in previous years or in our reference year. Only this year, unlike last year, we made Carbon Footprint calculations according to ISO 14064-1 Standard for our 7 integrated plants and ensured that they were verified by a 3rd party verification body.	No

C5.2

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

Scope 1

Base year start
January 1 2008

Base year end
December 31 2008

Base year emissions (metric tons CO2e)
1938115

Comment
Total direct emissions for clinker and cement production, mainly limestone calcination and fuels combustion

Scope 2 (location-based)

Base year start
January 1 2008

Base year end
December 31 2008

Base year emissions (metric tons CO2e)
187196

Comment
Total indirect emissions coming from the power consumption. We are consuming power from an interconnected grid, Reference factor the Ministry of Energy and Natural Resources (Turkey)

Scope 2 (market-based)

Base year start
January 1 2008

Base year end
December 31 2008

Base year emissions (metric tons CO2e)
187196

Comment
The location-based result has been used as a proxy since a market-based figure cannot be calculated.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
109458

Comment
Raw materials and materials related to production are included in the calculation.

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
Capital goods are not calculated.

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

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
398646

Comment
Well-to tank of Fuels not included in Scope 1 and 2 have been calculated and added.

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
92360

Comment
Transportation logistics calculation was made for production and services.

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
304

Comment
It is declared by the Ministry of Environment, Urbanization and Climate Change according to the disposal method of waste. Waste generated in operations also included in calculations.

Scope 3 category 6: Business travel

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
1159

Comment
As a business travel; Emissions from flights and accommodation are calculated and made.

Scope 3 category 7: Employee commuting

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
1517

Comment
Personnel transportation is provided by shuttle service.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
356180

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
8324

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start
January 1 2022

Base year end
December 31 2022

Base year emissions (metric tons CO2e)
6049

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
IEA CO2 Emissions from Fuel Combustion
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
WBCSD: The Cement CO2 and Energy Protocol

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
7158557

Start date
January 1 2022

End date
December 31 2022

Comment
This value refers to the scope 1 emissions of our organization in 2022. Compared to last year, Scope 1 emissions have decreased.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
8379530.64

Start date
January 1 2021

End date
December 31 2021

Comment
This value refers to the scope 1 emissions of our organization in 2021.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
7376574

Start date
January 1 2020

End date
December 31 2020

Comment
This value refers to the scope 1 emissions of our organization in 2020.

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)
5339004

Start date
January 1 2019

End date
December 31 2019

Comment
This value refers to the scope 1 emissions of our organization in 2019.

C6.2

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

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment
We calculate our Scope 2 Emissions as "Indirect emissions from the generation of imported electricity - based on location". First of all, we collect the electrical energy consumed every month in KWH in order to reach the activity data. Afterwards, we get the emission factors from the "Turkey Electricity Production and Electricity Consumption Point Emission Factors Information Form". We get the emission value in tons by multiplying the activity data and the emission factor. Finally, we find the CO2 equivalent by multiplying by the appropriate GWP values for CH4 and N2O.

C6.3

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

Reporting year

Scope 2, location-based
426651

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2022

End date
December 31 2022

Comment
This value refers to the scope 2 emissions of our organization in 2022. Our Scope 2 emissions are certified by a 3rd party verifier for all our facilities.

Past year 1

Scope 2, location-based
498678

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2021

End date
December 31 2021

Comment
This value refers to the scope 2 emissions of our organization in 2021. Our Scope 2 emissions are certified by a 3rd party verifier for all our facilities.

Past year 2

Scope 2, location-based
441436

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2020

End date
December 31 2020

Comment
This value refers to the scope 2 emissions of our organization in 2020. Our Scope 2 emissions are certified by a 3rd party verifier for all our facilities.

Past year 3

Scope 2, location-based
353495

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2019

End date
December 31 2019

Comment
This value refers to the scope 2 emissions of our organization in 2019. Our Scope 2 emissions are certified by a 3rd party verifier for all our facilities.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 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

Emissions in reporting year (metric tons CO2e)
109458

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
Raw materials and materials related to production are included in the calculation.

Capital goods

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
There is no clear data on the subject.

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

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
398646

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
Wtt of Fuels not included in Scope 1 and 2 have been calculated and added.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
92360

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
Transportation logistics calculation was made for production and services.

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
304

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
It is declared by the Ministry of Environment, Urbanization and Climate Change according to the disposal method of waste. Waste generated in operations included in calculations.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1159

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
As a business travel; flights and accommodation calculations are included.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1517

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain
Personnel transportation is provided by shuttle service.

Upstream leased assets

Evaluation status

Emissions in reporting year (metric tons 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

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
356180

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain

Processing of sold products

Evaluation status
Please select

Emissions in reporting year (metric tons 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

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
8324

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain

End of life treatment of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
6049

Emissions calculation methodology
Average data method
Average product method
Fuel-based method
Distance-based method
Waste-type-specific method

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

Please explain

Downstream leased assets

Evaluation status

Emissions in reporting year (metric tons 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

Franchises

Evaluation status

Emissions in reporting year (metric tons 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

Investments

Evaluation status

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (upstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

End date

Scope 3: Purchased goods and services (metric tons CO2e)

Scope 3: Capital goods (metric tons CO2e)

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Carbon Footprint Category 3 started to be calculated in 2021 for our Anka Factory and in 2022 for all our other factories. Therefore, no calculations are made for previous years.

C6.7

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

No

C6.10

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

Intensity figure
0.00083

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
7585208

Metric denominator
unit total revenue

Metric denominator: Unit total
9108395387

Scope 2 figure used
Location-based

% change from previous year
34

Direction of change
Decreased

Reason(s) for change
Other emissions reduction activities
Change in revenue

Please explain
New technology equipment provides less emissions, less energy consumption and less maintenance costs by providing intermittent operation. Trakya Cement Factory is equipped with an alternative fuel use system and provides low carbon emissions. In 2021, energy efficiency studies on asynchronous motors were completed in our Trakya, Bitlis and Derik factories. In this context, compensation system applications have been carried out in low voltage direct start motors to increase energy efficiency in motors. In this way, energy gain is achieved by creating a 15-20% reduction.
Engine energy efficiency studies were carried out at our Bitlis, Derik and Trakya plants. Apart from this, our investment in Alternative Fuel Dispatch and Feeding system for 2022 has been completed in order to reduce fuel-related CO2 emissions in line with our Net zero carbon target for our Anka factory. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emissions, high biomass content, tire wastes and fuels derived from industrial waste have been used as alternative fuels. As a result of these investments, the intensity figure decreased. Many more projects are going on to reduce the carbon emission.

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		0.851	0.031
Cement equivalent		0.708	0.044
Cementitious products		0.708	0.044
Low-CO2 materials			

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1	IPCC Sixth Assessment Report (AR6 - 100 year)
CH4	27.9	IPCC Sixth Assessment Report (AR6 - 100 year)
N2O	273	IPCC Sixth Assessment Report (AR6 - 100 year)
SF6	24300	IPCC Sixth Assessment Report (AR6 - 100 year)

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
Turkey	7158557

C7.3

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

By facility
By activity

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
Ergani Cement Plant	525284	38.28	39.74
Kurtalan Cement Plant	520647	37.96	41.71
Kilis Cement Plant	1487635	36.8	37.02
Anka Cement Plant	1204729	39.6	32.42
Balıkesir Cement Plant	913664	39.62	27.88
Trakya Cement Plant	1513124	41.63	27.5
Sanlıurfa Cement Plant	993471	37.28	38.73

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Direct emissions from stationary combustion	7158557
Direct emissions from mobile combustion	550
Direct process emissions and removals from industrial processes	4252533
Direct emissions from GHG seepage/leakage formation in anthropogenic systems	867

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		7158557	Our Scope 1 emissions decreased compared to the previous year due to our energy efficiency and alternative fuel investments.
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/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Turkey	404886	
Africa	21765	

C7.6

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

By facility
By activity

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)
Ergani Cement Plant	38034	
Kurtalan Cement Plant	30797	
Kilis Cement Plant	76060	
Anka Cement Plant	59581	
Balıkesir Cement Plant	46074	
Trakya Cement Plant	88164	
Sanlıurfa Cement Plant	56888	
Bitlis Cement Plant	4351	
Derik Cement Plant	4936	
Mozambique Cement Plant	7828	
Ivory Coast Cement Plant	13937	

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)
indirect emissions from imported electricity	362882	

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

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	426651		
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?
Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output	1293000	Decreased	14.56	Our Scope 1 and Scope emissions decreased compared to the previous year due to our energy efficiency and alternative fuel investments.
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

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

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?
More than 80% but less than or equal to 85%

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)		7334031	7334031
Consumption of purchased or acquired electricity	<Not Applicable>		799112	799112
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>		<Not Applicable>	
Total energy consumption	<Not Applicable>		8133143	8133143

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)	7334031
Consumption of purchased or acquired electricity	<Not Applicable>	799112
Consumption of other purchased or acquired energy (heat, steam and/or cooling)	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	8133143

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.

Sustainable biomass

Heating value

Total fuel MWh consumed by the organization

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>

Comment

Other biomass

Heating value

Total fuel MWh consumed by the organization

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>

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

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>

Comment

Coal

Heating value
LHV

Total fuel MWh consumed by the organization
7210280

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>

Comment
The total of petcoke, domestic lignite and imported lignite used for our 7 integrated plants in 2022 is taken. (Converted to mwh.).

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
9336

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>

Comment
The total of fuel oil used for our 7 integrated plants in 2022 is taken. (Converted to mwh.)

Gas

Heating value
LHV

Total fuel MWh consumed by the organization
3358

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>

Comment
In 2022, the total of natural gas used for our Balıkesir and Thrace plants has been taken. (Converted to mwh.). Our other factories generate energy from waste heat and do not use natural gas.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
LHV

Total fuel MWh consumed by the organization
111058

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>

Comment
The energy consumption of RDF (Waste Derived Fuel), which is used as an additional fuel in our Trakya plant and Anka plant is stated.
In 2023, our investments in Alternative Fuel Dispatch and Feeding system will be realized in our Kilis and Balıkesir plants.
While our fuel consumption (excluding feedstocks) was 9007433 MWh in 2021, this figure decreased by approximately 18% to 7334031 MWh in 2022. By increasing the amount of alternative fuels we use and expanding our renewable energy investments, we aim to reduce fossil fuel consumption and to obtain most of our energy from renewable sources. When our current SPP projects start out, we will have obtained approximately 15% of the energy used in Limak Cement factories from renewable SPP. In line with our Net zero carbon target for our Anka factory, our investment in Alternative Fuel Dispatch and Feeding system for 2022 has been completed in order to reduce fuel-related CO2 emissions. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emissions, high biomass content, tire wastes and fuels derived from industrial waste have been used as alternative fuels. (RDF usage in 2022 is 8071,67 tons) Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Similarly, Alternative Fuel Use was increased by 46% compared to the previous year. (20,452 tons/dry). With the use of Alternative Fuel, 10,305.75 tons of imported lignite consumption in 2021 and 12,961.74 tons of imported lignite in 2022 was prevented.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
7334031

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>

Comment
In 2023, our investments in Alternative Fuel Dispatch and Feeding system will be realized in our Kilis and Balıkesir plants.
While our fuel consumption (excluding feedstocks) was 9007433 MWh in 2021, this figure decreased by approximately 18% to 7334031 MWh in 2022. By increasing the amount of alternative fuels we use and expanding our renewable energy investments, we aim to reduce fossil fuel consumption and to obtain most of our energy from renewable sources. When our current SPP projects start out, we will have obtained approximately 15% of the energy used in Limak Cement factories from renewable SPP.

C-CE8.2c

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

Sustainable biomass

Heating value

Total MWh fuel consumed for cement production activities

MWh fuel consumed at the kiln

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

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

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

Comment

Other biomass

Heating value

Total MWh fuel consumed for cement production activities

MWh fuel consumed at the kiln

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

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

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

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total MWh fuel consumed for cement production activities

MWh fuel consumed at the kiln

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

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

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

Comment

Coal

Heating value
LHV

Total MWh fuel consumed for cement production activities
7210280

MWh fuel consumed at the kiln
7210280

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

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

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

Comment
The total of petcoke, domestic lignite and imported lignite used for our 7 integrated plants in 2022 is taken. (Converted to mwh.).

Oil

Heating value
LHV

Total MWh fuel consumed for cement production activities
9336

MWh fuel consumed at the kiln
9336

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

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

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

Comment
The total of fuel oil used for our 7 integrated plants in 2022 is taken. (Converted to mwh.)

Gas

Heating value

Total MWh fuel consumed for cement production activities

MWh fuel consumed at the kiln

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

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

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

Comment

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
LHV

Total MWh fuel consumed for cement production activities
111058

MWh fuel consumed at the kiln
111058

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

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

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

Comment
The energy consumption of RDF (Waste Derived Fuel), which is used as an additional fuel in our Trakya plant and Anka plant is stated.
In 2023, our investments in Alternative Fuel Dispatch and Feeding system will be realized in our Kilis and Balıkesir plants.
While our fuel consumption (excluding feedstocks) was 8998645MWh in 2021, this figure decreased by approximately 18% to 7321338 MWh in 2022. By increasing the amount of alternative fuels we use and expanding our renewable energy investments, we aim to reduce fossil fuel consumption and to obtain most of our energy from renewable sources. When our current SPP projects start out, we will have obtained approximately 15% of the energy used in Limak Cement factories from renewable SPP.
In line with our Net zero carbon target for our Anka factory, our investment in Alternative Fuel Dispatch and Feeding system for 2022 has been completed in order to reduce fuel-related CO2 emissions. After the necessary measurement and permit processes within the scope of legal regulations, fuels derived from domestic waste with low carbon emissions, high biomass content, tire wastes and fuels derived from industrial waste have been used as alternative fuels. (RDF usage in 2022 is 8071,67 tons)
Within the scope of industrial symbiosis studies, wastes with high mineral content originating from different sectors are used as alternative raw materials. Compared to 2021, the use of alternative raw materials has increased by 34%. The rate of ARM usage in the raw mill in our Trakya factory has been increased by 97% compared to the previous year. (64,003 tons/age). Similarly, Alternative Fuel Use was increased by 46% compared to the previous year. (20,452 tons/dry). With the use of Alternative Fuel, 10,305.75 tons of imported lignite consumption in 2021 and 12,961.74 tons of imported lignite in 2022 was prevented.

Total fuel

Heating value
LHV

Total MWh fuel consumed for cement production activities
7321338

MWh fuel consumed at the kiln
7321338

MWh fuel consumed for the generation of heat that is not used in the kiln
9336

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

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

Comment
In 2023, our investments in Alternative Fuel Dispatch and Feeding system will be realized in our Kilis and Balıkesir plants.
While our fuel consumption (excluding feedstocks) was 8998645MWh in 2021, this figure decreased by approximately 18% to 7321338 MWh in 2022. By increasing the amount of alternative fuels we use and expanding our renewable energy investments, we aim to reduce fossil fuel consumption and to obtain most of our energy from renewable sources. When our current SPP projects start out, we will have obtained approximately 15% of the energy used in Limak Cement factories from renewable SPP.

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	799112	799112		
Heat	7334031	7334031		
Steam				
Cooling				

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		
Heat	7321338	7321338
Steam		

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area
Turkey

Consumption of purchased electricity (MWh)
799112

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
799112

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
37648

Metric numerator
tonnes RDF /year

Metric denominator (intensity metric only)

% change from previous year
67

Direction of change
Increased

Please explain
Limak Cement Inc. 22506 tons of RDF was used in 2021 within the scope of waste incineration activities in our Trakya plant. With the commissioning of the waste feeding system of the Anka factory in 2022, this value increased to 37648.44 tons for the Trakya and Anka factories. RDF usage is monitored daily and the increase in 2022 was recorded as 67%.

Description
Waste

Metric value
287961

Metric numerator
tonnes ARM/year

Metric denominator (intensity metric only)

% change from previous year
50.83

Direction of change
Increased

Please explain
Limak Cement Inc. Within the scope of waste incineration activities in our Trakya plant, 190,906.15 tons of AR M was used in 2021. In 2022, this value is 287,961.33 tons. ARM usage is monitored daily and the increase in 2022 was recorded as 50.83%.

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	As Limak Cement R&D department, projects including industrial symbiosis and circular economy-based studies are among our priorities because of the awareness of its importance to ensure sustainability. Responsible use of resources and zero waste approach have gained great importance especially for the cement sector, where raw materials are used intensively and in high quantities. Therefore, as Limak Cement, we have studies and trial production in which we are constantly looking for alternative raw materials with the aim of having a chance to prevent and/or reduce the problem of carbon emissions. Since the increase in greenhouse gas emissions, one of the triggers of the climate crisis, has a negative impact especially on the cement sector, the production of new green products and/or new production technologies that will lead to emission reduction are at the forefront of our R&D and innovation strategies. In our R&D projects, we aim to achieve the circular economy approach, by using the wastes from production of one sector as raw material or secondary raw material for another sector, that is, through industrial symbiosis. In current ongoing studies, collaborations are made with governmental institutions, universities and project-based companies in the private sector. For example, in one of these projects, which was carried out jointly with the governmental institution, the evaluation of the waste of the mining sector as a raw material in cement production is being investigated. According to the preliminary results of the project, significant decreases were observed in carbon emissions due to the mining waste used in cement production. In cooperation with universities, projects are presented to grant programs such as Horizon Europe, and also Limak takes place as an industrial partner that provides materials in the carbon related R&D studies carried out at the university with small budget.

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
Low clinker cement

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Apart from the quality control laboratories, there is a central laboratory used for the R&D studies in the Limak Cement Group. Together with the special experiments such as characterization analysis and usage optimization of alternative raw materials, and burnability analysis, there are some on-going studies for alternative raw material usage for low carbon products in order to participate in low carbon road map. A new cement product named as Limak CEM PLUS+ has already been developed to achieve low carbon footprint target of the Group. This product has been released to market as a first low carbon cement product of Limak Cement Group.
Thanks to the EN 197-5 "Cement – Part 5: Portland-Composite Cement CEM II/CM and Composite Cement CEM V" standard it has published, CEN has shown the way for manufacturers to reduce emissions by using less clinker to produce more environmentally friendly products. In this context, Limak Şanlıurfa Factory was entitled to be the first production facility in Turkey to receive this certificate. Limak Şanlıurfa Factory became the first factory in our country to receive the "G Certificate" with the given document numbered 001.

Technology area
Alternative low-CO2 cements/binders

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Several studies were conducted for the use of fly ash, bottom ash and synthetic gypsum coming from thermal power plants in cement and concrete production following an effective quality and product management plan. As a result of one of these studies, two new cement products coded as CCBA 42,5 R and CCBA 32,5 N (Cement with Coal Bottom Ash –CCBA) were developed. For the first time in these products, bottom ash, thermal power plant waste/by-product, was used in cement production and was entitled to receive European Assessment Documentation (ETA) from European Organization for Technical Assessment (EOTA) in 2019. In this way, Limak Cement has become a pioneer in the cement sector by creating an industrial symbiosis relationship between two energy-intensive sectors.

Technology area
Alternative low-CO2 cements/binders

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Limak Cement Anka Branch from the building materials sector was selected for the Preliminary Evaluation Support Project of the Turkish Circular Economy Platform, implemented by the Sustainable Development Association (SKD), of which we are a member, in cooperation with the EBRD. With the project, it is aimed to raise awareness about the circular economy and to determine the priority areas of opportunity related to the circular economy by considering the processes, input outputs and value chains of the companies, primarily by looking at material exchanges (industrial symbiosis).

Technology area
Carbon capture, utilization, and storage (CCUS)

Stage of development in the reporting year
Basic academic/theoretical research

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
Limak Cement supports the “Low-Carbon Pathways for Industrial CO2 Utilization, Transport, and Storage (LowCarbonPath)” project application under the coordination of the Delft University of Technology in response to the European Commissions’ H2020 call “Low carbon industrial production using CCUS”.
Since the official announcement of the fully adherence on the Sustainability Development by Limak Group, Limak Cement build its priorities and strategies for sustainability on United Nations Sustainable Development Goals. In this respect, Limak Cement aims to
contribute to the global response to the threat of climate change (SDG13) by being a responsible consumer and producer with an “ecological” economic growth (SDG12) with a strong global partnerships and cooperation (SDG17) under innovation and technological progress for both economic and environmental challenges (SDG9). With the LowCarbonPath Project, Limak Cement will focuses on how to manage the industrial output of its production under an innovative project enabling us to handle efficiently and economically the technologies related to the elimination of its output.
As Low Carbon Path aims to deploy CO2 capture and utilization on Cement Sector, as well as develop a feasible study which can be used to create infrastructure for the transport of this CO2 by pipeline from Limak Anka Cement Plant in Ankara. Limak Cement Group would like to fully support the Low Carbon Path application by taking an active role on the External Advisory Committee of the project by overseeing progress, providing advice regarding the CCUS cluster development and operation, providing data regarding CO2 emissions from CO2-intensive processes taking place in the cement plant and facilitating dialogue between the various stakeholders involved in order to maximize the project’s impact.
Limak Cement Group will not be only an important stakeholder as operator of essential CO2 transport infrastructure, but also it is expected that the knowledge built up in this project will inform and enable the ongoing CCUS initiatives in Turkey, and more broadly to the eastern European region.

Technology area
Alternative low-CO2 cements/binders

Stage of development in the reporting year
Basic academic/theoretical research

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
As Limak Cement Group, research studies about the usage of alternative raw materials from the waste and/or by-products of other energy intensive sectors are carried out in all factories. Within the scope of these studies, industrial scale cement production trials have been conducted with the waste of the plastics industry, electric arc furnace slags from the iron and steel industry, sewage sludges of Organized Industrial Zones, waste of marble sector,
construction & demolition waste, bottom ash from thermal power plants, and petroleum drilling waste. In this context, utilization of alternative raw materials that give appropriate results is continued, and when appropriate conditions are provided, these products will be certified or patented.
With the aim of the zero-waste approach and carbon emissions reduction, joint collaboration are made with regional Development Agencies to find alternatives for reducing the burnability temperature.
Within the short-term plans, it is planned to be an industrial partner in the project consortiums that will take part in the calls of Cluster 5 Climate, Energy and Mobility opened within the scope of Horizon Europe.

Technology area
Alternative low-CO2 cements/binders

Stage of development in the reporting year
Please select

Average % of total R&D investment over the last 3 years

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan
There were several carbon emission reduction related R&D projects conducted in 2022 at R&D Center of Limak Cement.
In Project-1, it is aimed to use the bottom ash of thermal power plant, instead of fine aggregate in concrete production. In Project-2 production of eco-cement by using mine tailings in raw meal is targeted. Project-3 takes place at the Anka Factory and in this project the main objective is to determine the parameters that reduce efficiency by collecting all the data obtained from the automation center, laboratory and field of the raw mill line on the same digital platform. After this determination, the solutions for increasing the efficiency will be evaluated and the first step will be taken in the digitalization of the cement production line. Project-4 will set an example for the circular economy by establishing an industrial symbiosis relationship between the glass industry and the cement industry with the help of using waste. Project-5 is related with the improvement of the physical properties of alternative cementitious materials to evaluate in the cement production.

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
Third party verification/assurance underway

Attach the statement
QSI ACCREDITATION CERTIFICATE.pdf
CPC ACCREDITATION CERTIFICATE.pdf
Anka EmisyonRaporu_2022.pdf
Balıkesir Verification Statement- 14064_2018 - en pdf.pdf
Şanlıurfa Verification Statement - 14064_2018 - en pdf.pdf
Ergani ISO 14064-2018 Assessment Report_EN.pdf
Kilis Verification Statement - 14064_2018 - en pdf.pdf
Kilis Emisyon Raporu -2022.pdf
Trakya Emisyon Raporu - 66399_67470 (3).pdf
Ergani Emisyon Raporu.pdf
Şanlıurfa Emisyon Raporu.pdf
Kurtalan ISO 14064-2018 Assessment Report_EN.pdf
Trakya ISO 14064-2018 Assessment Report_EN.pdf
Trakya Verification Statement - 14064_2018 - en pdf.pdf
Şanlıurfa ISO 14064-2018 Assessment Report_EN.pdf
Kurtalan Emisyon Raporu - 61427_62498.pdf
Balıkesir ISO 14064-2018 Assessment Report_EN.pdf
Kilis ISO 14064-2018 Assessment Report_EN.pdf
Kurtalan Verification Statement - 14064_2018 - en pdf.pdf
Ergani Verification Statement - 14064_2018 - en pdf.pdf
Anka Plant Verification Report.pdf
Balıkesir Emisyon Raporu - 64767_65838 (3).pdf

Page/ section reference
All these data were also used to present annual performance of company in Sustainability Report. Both National and International guidelines, protocols (IPCC , 2006, ISO 14064, The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), WBCSD: The Cement CO2and Energy Protocol) were followed to assure and regulate the shared data. The carbon footprint report has been verified by accredited third organizations in accordance with ISO 14064-1:2018 Standards.

Relevant standard
ISO14064-1

Proportion of reported emissions verified (%)
100

C10.1b

(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
Third party verification/assurance underway

Attach the statement
QSI ACCREDITATION CERTIFICATE.pdf
CPC ACCREDITATION CERTIFICATE.pdf
Balıkesir Verification Statement- 14064_2018 - en pdf.pdf
Şanlıurfa Verification Statement - 14064_2018 - en pdf.pdf
Ergani ISO 14064-2018 Assessment Report_EN.pdf
Kilis Verification Statement - 14064_2018 - en pdf.pdf
Kurtalan ISO 14064-2018 Assessment Report_EN.pdf
Trakya ISO 14064-2018 Assessment Report_EN.pdf
Trakya Verification Statement - 14064_2018 - en pdf.pdf
Şanlıurfa ISO 14064-2018 Assessment Report_EN.pdf
Balıkesir ISO 14064-2018 Assessment Report_EN.pdf
Kilis ISO 14064-2018 Assessment Report_EN.pdf
Kurtalan Verification Statement - 14064_2018 - en pdf.pdf
Ergani Verification Statement - 14064_2018 - en pdf.pdf
Anka Plant Verification Report.pdf

Page/ section reference
The carbon footprint report has been verified by accredited third organizations in accordance with ISO 14064-1:2018 Standards.

Relevant standard
ISO14064-1

Proportion of reported emissions verified (%)
100

C10.1c

(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: Purchased goods and services
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Downstream transportation and distribution
Scope 3: Use of sold products

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Third party verification/ assurance underway

Attach the statement
QSI ACCREDITATION CERTIFICATE.pdf
CPC ACCREDITATION CERTIFICATE.pdf
Balıkesir Verification Statement- 14064_2018 - en pdf.pdf
Şanlıurfa Verification Statement - 14064_2018 - en pdf.pdf
Ergani ISO 14064-2018 Assessment Report_EN.pdf
Kilis Verification Statement - 14064_2018 - en pdf.pdf
Kurtalan ISO 14064-2018 Assessment Report_EN.pdf
Trakya ISO 14064-2018 Assessment Report_EN.pdf
Trakya Verification Statement - 14064_2018 - en pdf.pdf
Şanlıurfa ISO 14064-2018 Assessment Report_EN.pdf
Balıkesir ISO 14064-2018 Assessment Report_EN.pdf
Kilis ISO 14064-2018 Assessment Report_EN.pdf
Kurtalan Verification Statement - 14064_2018 - en pdf.pdf
Ergani Verification Statement - 14064_2018 - en pdf.pdf
Anka Plant Verification Report.pdf

Page/section reference
The carbon footprint report has been verified by accredited third organizations in accordance with ISO 14064-1:2018 Standards.

Relevant standard
IS)14064-1

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
C9. Additional metrics	Emissions reduction activities	European Technical Assessment Agency (EOTA) European Evaluation Certificates (ETA)	A new cement type called Limak CEM PLUS+ has been developed to achieve the group's low carbon footprint target. This product has been patented and put on the market as a low carbon cement type. In addition, a study was conducted on the use of fly ash, floor ash and synthetic plaster from thermal power plants in cement production after an effective quality and product management process. As the first producer in both Turkey and the European Union countries, two new cement products with the code CCBA 42.5 R and CCBA 32.5 N (Coal Bottom Ash Cement – CCBA) received the European Evaluation Documentation (ETA) for Technical Evaluation (EOTA) from the European Union Establishment in 2019. Balıkesir ETA Document.pdf Kilis ETA Document.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)?
No, but we anticipate being regulated in the next three years

C11.1d

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

Although there is no valid regulation regarding the carbon pricing in Turkey, we are recording our carbon emission values since 2008. The Paris Climate Agreement and Green Deal Adjustment are the main sources for the determination of carbon pricing mechanism in Turkey. There are two major potential carbon pricing methods which are carbon tax or ETS mechanism for the further strategies of Turkey. Corporate Sustainability and Climate Change department of the Group continuously pursues the current affairs closely in global scale and works on development strategies to achieve low carbon emission, carbon capture, alternative fuel and raw material usage targets since these type of developments could significantly decrease the future carbon costs of the Group.

At the same time, the "Carbon Reduction Strategy Committee" was established under the leadership of our CEO as the Limak Cement Group. With the introduction of CBAM, it is necessary to take precautions by defining the risks we may encounter in cement exports in the coming years, to determine the applicability by following the national and international legislation regarding the ETS, to determine how much our estimated emission amount will decrease until 2030, together with carbon pricing, renewable energy investments planned to be made in the coming years and the production of low-carbon products, etc. All studies constitute the main agenda items of this committee.

There are two teams in the committee, namely the risk identification team and the greenhouse gas calculation team. The duties of the risk identification team are to determine the general risk management strategy, to create the risk and opportunity profile, to follow the carbon-related legislation on a global scale, to identify the risks within the CBAM and planning actions regarding this situation, to Determine the Effects of Climate Change, Green Financing Tracking and Analysis, Carbon Exchange and Emission Trading System Lending Tracking and Investment Costs Analysis. The duties of the Greenhouse Gas Emissions Calculation Team are; collecting and examining the required data for Greenhouse Gas Verification, monitoring and reviewing the CDP Reports on Climate Change and Water security, sharing data on emissions with our stakeholders (when needed), ISO 14064 Carbon Footprint calculations and double checking, participating ISO 14064 Carbon footprint trainings, LCA Studies and calculations.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

% total procurement spend (direct and indirect)

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

Rationale for the coverage of your engagement
As given in imak Group Sustainability Reports, one of the major sustainability targets is creating sustainability consciousness to our whole suppliers.

Impact of engagement, including measures of success

Comment
The percentage of suppliers by number and total procurement spend are not being followed systematically yet but it will be one of our further target to be able to observe the engagement of our suppliers numerically. While calculating the ISO 14064-1 carbon footprint, in order to access the data more easily, it has become obligatory for visitors to provide the information to fill the visitor module part of our LIMBES system to specify how many kilometers they come from, and also to specify the fuel type of the vehicle they come with.
As Limak Cement, we adopt sustainability as a business model and strive to fulfill our responsibility for our planet and sustainable life in the best way possible. In this context, a sustainability survey was conducted for all our stakeholders in order to determine the priorities of our sustainability strategies. For example, a survey was conducted with 154 internal stakeholders and 79 external stakeholders. Online trainings have been determined through the Limak Cement Academy system in order to help our stakeholders adopt the most important sustainability issues today and in the future. Trainings will be given in 2023.

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Other, please specify (Supply Chain Management Including Environmental Considerations)

% of suppliers by number

% total procurement spend (direct and indirect)

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

Rationale for the coverage of your engagement
In the process of Supplier Selection and Evaluation carried out as part of the Purchasing Procedure, the criteria such as quality, performance, references, certificates and economic criteria are taken into consideration. The approved supplier is added to the list of approved suppliers. The firms which would take place in the List of Approved Suppliers for the first time in their areas of activity need to have sufficient bench capacity, machine park and organization, expertise on their subject matters and have at least 2 years of experience, indicate at least 2 positive references in the similar or same sector in the works that they have undertaken, and have at least one of the necessary quality certifications for the area of activity (TSE, ISO, OHSAS, CE and the like). In the evaluation of the suppliers, the scores given against the criteria are added up. Scoring for the partially achieved items is made according to the percentage of achievement. In order to continue to work with the firms, the firm needs to get at least 50 points out of 100 in the evaluation. If none of the firms is able to pass 50 points out of 100 in the same area of business, the businesses are made with the firm which scored the highest point. Together with the above mentioned items, the sustainability and climate change strategies of the current and potential suppliers became essential criteria since there are significant increase in climate related risks in all around the world. The supplier which a proper environemntal management system such as ISO 14001 and mitigation strategies to decrease its emissions will have advantages during the scoring period of the suppliers. For instance, there is internal transportation companies in all factories to carry the raw materials from quaries to plants. During the selection of supplier for internal transportation, the maintenance and age conditions of vehicles play significant role since the new models and well cared vehicle will cause low carbon emission and less natural source consumptions

Impact of engagement, including measures of success

Comment

C12.1b

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

Type of engagement & Details of engagement

Collaboration & innovation	Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
34

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

Please explain the rationale for selecting this group of customers and scope of engagement
The Group R&D deparment conducts studies on cement manufacturing techniques with low carbon emission . The CEM PLUS+ which is new developed cement type including more additive and less clinker put on the market to collaborate with the customers to mitigate climate related risk by prefering more environmental fiendly products. This is one of our main strategy to create and improve sustainability consciousness of our custormers and new markets while maintaining our financial development in worldwide.
As Limak Cement, we adopt sustainability as a business model and strive to fulfill our responsibility for our planet and sustainable life in the best way possible. In this context, a sustainability survey was conducted for all our stakeholders in order to determine the priorities of our sustainability strategies. For example, a survey was conducted with 154 internal stakeholders and 79 external stakeholders. Online trainings have been determined through the Limak Cement Academy system in order to help our stakeholders adopt the most important sustainability issues today and in the future. Trainings will be given in 2023.

Impact of engagement, including measures of success

C12.1d

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

It is a priority for Limak to interact with the partner in the value chain and work together on climate-related issues. Primary partnerships are listed below.

1- Collaborations with Universities

Several collaborations were made with Turkey's leading universities, especially in order to develop low-carbon products and integrate CCUS technologies, which have become m ore important day by day, into our current system. In this concept, cooperation with Hacettepe University Civil Engineering Department can be listed as first. The main scope of thi s cooperation is to optimize the usage rates of waste in the mix design of low carbon cement/concrete products. After this optimization carbon footprints of these products are cal culated with LCA within the scope of collaboration. In these studies, especially the recycling of construction demolition wastes is at the top of the agenda.
In addition to Hacettepe University, there are other collaborations with METU and 9 Eylül universities. As a result of the first evaluations of the study made with METU, where we conducted analysis on grinding efficiency, important conclusions were reached regarding energy optimization. Besides these studies, low carbon concrete and concrete structures are at the center of the studies carried out jointly with 9 Eylül University. As we are aware of the importance of big industries like us working together with universities, especially o n R&D issues, we aim to increase such collaborations in the coming years.

2- TÜBİTAK MARMARA RESEARCH CENTER (MAM)

In the studies carried out with TÜBİTAK MAM, preliminary discussions were held on the technical results of integration carbon capture technologies with low TRL to the cement sector while increasing TRL to 7-9. In addition to the carbon capture technologies, the issues of how to deal with the captured carbon were also evaluated. In case storage is an option, evaluation of the areas where carbon can be stored in Turkey has come to the forefront. In these studies with Tübitak MAM, Limak Cement will take part in order to represent the cement industry.

We continue to participate in informative events such as national and international conferences/seminars about climate-related issues in order to closely follow the innovative technologies and developments, and to have closer relations with stakeholders in the value chain.

Thanks to our role both as an executive in the management and as a technical expert in working groups in various NGOs representing the cement sector, especially TÜRKÇİMENTO, we are one of the leading players in the studies necessary for the sector to make decisions on climate-related issues and to create a roadmap. Also, this will be helpful for us to stay up-to-date by communicating with other stakeholders in the value chain. We continue our work, being aware of the importance of taking part in technical and non-technical issues that are for the greater good especially in climate related issues. As a strong player in the sector, we show our strength in lobbying activities and relationships with law-making authorities.

3-Pre-Assessment Support Project of Turkish Circular Economy Platform (BCSD Turkey - EBRD)

Limak Anka Cement Plant from building materials industry, is elected to Pre-Assessment Support Project of Turkish Circular Economy Platform, launched in collaboration between EBRD and Sustainable Development Society (SDS). Project aims raising awareness on the circular economy and identifying the priority opportunity areas relating to circular economy notably looking at the material exchanges (industrial symbiosis) by considering the processes, inputs-outputs and value chains of the companies. At the end of project, the academic expert on cement sector from Afyon Kocatepe University Civil Engineering Department has presented potential alternative raw material sources (marble residuals, water treatment sludge, moulding sand, construction waste, etc.) and available suppliers at the near region of the Anka Cement Plant with a final report.

4- Industrial Symbiosis Project (ETI Mining Company - South Marmara Development Agency)

A corporate cooperation protocol was signed between Limak Cement, Eti Maden Operations General Directorate and South Marmara Development Agency. The main purpose o f this protocol is dissemination of industrial symbiosis practices in the TR22 Region (Balıkesir-Çanakkale) through the use of wastes and/or by-products of boron minerals in the c ement sector. Within the the scope of this protocol, the characterization analysis of the wastes in the TR22 region have been completed and low carbon products have been eval uated in both cement and concrete production. The results were evaluated in the workshops attended by all parties. At the same time, this process includes the exchange of opini ons and studies on possible project proposals and collaborations by following the calls to be opened within the scope of the Horizon Europe Framework Program of all parties.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization’s purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Attach commitment or position statement(s)

<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

National and international legal requirements, IFC and World Bank norms in order to minimize the environmental impact in all our factories in line with the Corporate Sustainability and Climate Change Department employed within the Limak Cement Group and the Sustainable Development Goals to Take Urgent Action to Combat Climate Change and Its Effects (SKA-13). We are constantly monitored, necessary investments are made for full compliance with all relevant legislation, environmental performances are measured in line with the determined targets and our activities are carried out within the framework of ISO 14001 Environmental Management System. Our Greenhouse Gas Reporting and Verification studies have been reported and verified for direct emissions since 2015 by accredited verifiers within the scope of the roadmap for carbon dioxide emission reduction throughout the Group. As a result of the investments and developments made in our Group's factories in electrical energy consumption, which causes indirect emissions, the best results have been achieved in the world and in Turkey with the current technology. As a matter of fact, in the comparative evaluation study of the Ministry of Energy and Natural Resources, which includes more than 50 integrated factories every year, Limak Cement group in Turkey became the first cement factory whose carbon footprint report was approved by an accredited institution in the cement sector. (For our Anka plant)
In 2023, unlike the previous year, ISO 14064-1 Carbon Footprint was calculated for all of our plants across the group and verified by an accredited 3rd Organization (with 2022 emission data). Waste feeding system in our Anka factory and tire shredder investments in our Trakya factory were made and they were put into use in the last quarter of 2022. Waste-derived fuel started to be used in our Anka factory in the last quarter of 2022. Pre-feasibility studies of the 6MW WHR project in our Trakya factory have been completed. In this way, it is aimed to reduce carbon emissions. The annual CO2 gain to be obtained from the Solar Power Plant projects in our Ergani, Kurtalan, Sanliurfa, Derik, and Anka facilities has been calculated as approximately 32,456 tons of CO2/year. The annual CO2 gain of the 6MW WHR project designed in our Limak Thrace factory has been calculated as 5604 tons of CO2.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Limak Cement is one of the contributors in the carbon reporting preparations of policy makers. The carbon emission values are recorded and evaluated since 2008 in our factories. The low carbon emission technologies and other carbon mitigations are pursued in global manner. During the meetings with the policy makers, the conducted investigations and improvements are presented to provide an additional perspective for the establishment of most comprehensive and useful carbon reporting system. Likewise, Limak Cement Group also supports the public consultation process carried out by the Ministries for CBAM in 2023. It is in constant communication with the Ministry of Environment, Urbanization and Climate Change, the Ministry of Industry and Technology and the Ministry of Commerce in order to shape the strategy that will be formed by the government throughout the country for CBAM.

Category of policy, law, or regulation that may impact the climate
Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate
Climate-related reporting
Climate-related targets
Climate transition plans
Emissions – CO2

Policy, law, or regulation geographic coverage
Global

Country/area/region the policy, law, or regulation applies to
<Not Applicable>

Your organization's position on the policy, law, or regulation
Support with major exceptions

Description of engagement with policy makers
The current legistative studies are supported with company data and the developing remarks as result reviewing current global applications are presented to the Ministry. The negotiations with the Turkish Cement Manufacturers Association (TCMA) for the legislative studies of policy makers create more feasible application within that scope
In 2014, we have signed the United Nations Global Compact, one of the most substantial steps taken by the private sector towards the sustainable development, with the vision of "sustainable and comprehensive global economy" and suggesting universal principles to establish a mutual development culture in the business world in a constant competition as Limak Group of Companies. Since the day of our signatory, we have supported and consolidated 10 principles of the Global Compact in our entire group.
In the year of 2015, we have taken the first concrete step of our universal sustainability practices by signing the Women 's Empowerment Principles, created in cooperation with the UN Global Compact and the UN Gender Equality and Women's Empowerment Unit (UN Women), in order to empower women in society, business life and economic life as Limak Group of Companies.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation
Limak Cement is one of the contributors in the carbon reporting preparations of policy makers. The carbon emission values are recorded and evaluated since 2008 in our factories. The low carbon emission technologies and other carbon mitigations are pursued in global manner. During the meetings with the policy makers, the conducted investigations and improvements are presented to provide an additional perspective for the establishment of most comprehensive and useful carbon reporting system. Together with the sharing of current site practices, theoritical content of the mentioned guidelines and regulations is aimed to be more realistic and feasible for the site practices.
Likewise, Limak Cement Group also supports the public consultation process carried out by the Ministries for CBAM in 2023. It is in constant communication with the Ministry of Environment, Urbanization and Climate Change, the Ministry of Industry and Technology and the Ministry of Commerce in order to shape the strategy that will be formed by the government throughout the country for CBAM..

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

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
Other, please specify (Accredited third organization)

Status
Complete

Attach the document
Balıkesir Verification Statement- 14064_2018 - en pdf.pdf
Şanlıurfa Verification Statement - 14064_2018 - en pdf.pdf
Kilis Verification Statement - 14064_2018 - en pdf.pdf
Trakya Verification Statement - 14064_2018 - en pdf.pdf
Kurtalan Verification Statement - 14064_2018 - en pdf.pdf
Ergani Verification Statement - 14064_2018 - en pdf.pdf
Anka Plant Verification Report.pdf

Page/Section reference
The carbon footprint report has been prepared by Limak Cement Group and verified by accredited third organizations in accordance with ISO 14064-1:2018 Standards. All pages have information about our carbon emission process.

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	We are not a signatory/member of any collaborative framework, initiative and/or commitment related to environmental issues	<Not Applicable>

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	Limak Ergani Cement In 2022, 120 fruit trees and 500 ornamental plants were planted in various areas of the factory. 250 trees and 500 square meters of green area were targeted for 2023. Limak Kurtalan Cement has the feature of being the factory with the highest number of green areas and trees in the Limak Cement group. In terms of tree species adapted to the climatic conditions of the region, it also sets an example for the region. Limak Şanlıurfa Cement, within the scope of the project to restore the marl field, which has completed the economic life of the factory, to nature, which was started in 2017, continued its rehabilitation works in 2022 together with the Şanlıurfa Metropolitan Municipality. It is planned to plant 200 trees in 2023. As the Limak cement group, we believe that the protection of biodiversity and other forces of natural capital is a global issue that requires collaborative solutions on a large scale. Within the scope of combating climate change, the importance of many ecosystems such as forests is increasing day by day due to their carbon sink capacities and natural flood defenses. Applicable site-specific Recovery to Nature plans, developed and used by the site management team, are being prepared to preserve and improve the biodiversity value during the operation and post-closure phases of the quarries in our factories, to identify risks and opportunities before extraction begins. It determines and implements the scope of activities for monitoring and improving the environmental impacts on biodiversity and ecosystem with the risk and opportunity assessment studies it has carried out for factory and quarry regions. Process criteria and sustainability targets have been determined by the sustainability and climate change unit at our plants. In order to protect and maintain biodiversity in our factory and quarry areas, the most up-to-date, preventive, reductive and corrective activities are prepared by the sustainability and climate change directorate of the group and adapted for all activities carried out within the group.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	No, but we plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment
No, but we plan to within the next two years

Value chain stage(s) covered
<Not Applicable>

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment
No, but we plan to within the next two years

Value chain stage(s) covered
<Not Applicable>

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

No

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Education & awareness Other, please specify (In our factories, plans for reintroducing nature are being developed)

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	State and benefit indicators Pressure indicators Response indicators

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Impacts on biodiversity Biodiversity strategy	Sustainability report for Limak Group of Companies has not published yet. It will be published this year and our information regarding biodiversity will be in this report. (Pg number 51-65) limak-2020-2021-sustainability-report.pdf

C16. Signoff

C-FI

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

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below
I have read and accept the applicable Terms