AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş. - Climate Change 2018

C0. Introduction

C0.1

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

Akcansa joint venture of Sabancı Holding and HeidelbergCement is the bigggest cement producer of Turkey, and leader company of the industry. Akcansa was established with the merger of Akçimento (established in 1967) and Çanakkale Çimento (established in 1974) in 1996. Active in the Marmara, Aegean and Black Sea Regions, Akçansa produces cement and clinker in its three factories located in İstanbul-Büyükçekmece, Çanakkale and Samsun-Ladik. The Company also has five cement terminals. Akcansa provides service under the “Betonsa” brand to produce and sell ready-mixed concrete in over 35 plants throughout the Marmara and Aegean regions, and aggregate under the “Agregasa” brand in its 4 aggregate plants.
As the leader of the Turkish cement industry, Akçansa supplies 10% of our country’s cement demand and 12,5% of the country’s total cement and clinker exports. In addition to being identified as an environmentally friendly company with the award given by the Istanbul Chamber of Commerce, the Company maintains its leadership position through its outstanding service approach and its facilities that are equipped with the latest technology.

Sustainability strategy :
Akcansa vision is to maintain sustainable growth beyond all limits in the building materials industry and to be trusted by all our stakeholders and to have the most preferred business model. The mission is to create value for our customers through the use of our innovative products, services and solutions, our stakeholders with our outstanding financial performance, our employees who form the focus point of our business model by providing constant improvement opportunities through our culture that is committed to upholding social, environmental, legal and ethical values.
The Board of Directors and the Executive Committee is highly engaged in sustainability policy and Akcansa 2020 Sustainability ambitions focused on 6 pillars defined with the guidance of World Business Council for Sustainable Development (WBCSD) Cement Sustainability Initiative (CSI) key actions and our local stakeholder priorities. These pillars are namely occupational health and safety, sustainable supply chain management, promoting biodiversity, protecting the climate and the environment, sustainable construction and stakeholder engagement. We have defined precise targets for these pillars in the Akcansa Sustainability Ambitions, which we intend to achieve by 2020.

Sustainability management:
Akcansa Sustainability Committee, directly reporting to the Executive Committee and indirectly to the Board of Directors, led by the Technical Director (member of Executive Committee) is in charge of the management and control of the sustainability and climate protection strategy. The committee is made up of people from various business lines and disciplines: Health&Safety, Purchasing, Raw materials&Environment, R&D, Communication and Human Resources. Operational responsibility for implementing the sustainability and climate protection goals and measures lies with the individual departments, the line managers and the employees. It was set up in 2009 with the aim of improving our performance in environmental protection and occupational safety and promoting the information between the business lines. Due to the large quantities of fuel used during the cement manufacturing process and the release of carbon dioxide from the raw materials, cement production generates more carbon emissions than any other industrial process. That is why climate protection is at the heart of our environmental policy. We have been striving for many years to minimise our CO2 emissions. Akcansa target is to reduce specific net CO2 emissions down to 830 kgCO2/ton clinker by 2020.

For further information about the company and its organization, please visit www.akcansa.com.tr and see 2017 annual report.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.
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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas 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
Aggregates production
Concrete production

C1. Governance

C1.1

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

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board/Executive board	Akçansa Chairman of the Board and Vice Chairman are the highest level individuals with direct responsibility for all issues relating to environmental sustainability and climate change. The Chairman is informed by Akcansa General Manager about the progress on sustainability actions of Akcansa. The developments are periodically tracked by the Sustainability Committee and the chairman of the committee (Asst. GM – Operations) informs GM. Besides emission and water data has been provided to OCR reports for group reporting of HeidelbergCement. Vice chairman is briefed on the developments on emissions reductions in the Group level by the Director of Global Environmental Sustainability Department. As far as climate change is concerned, Vice chairman is responsible to review the progress and status of Green House Gas emissions reduction at HeidelbergCement. He is informed by the Group CO2 Coordinator who is assisted by CO2 coordinator

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	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding business plans Overseeing major capital expenditures, acquisitions and divestitures	Managing board reviews risks on regular basis. Transition to low carbon economy is a strategical issue. Due to upcoming regulative probable changes for which the key actions are increasing alternative fuel rate and alternative fuel investments.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Half-yearly
Sustainability committee	Both assessing and managing climate-related risks and opportunities	Half-yearly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

The corporate sustainability policy of Akçansa is implemented according to the objectives set in HeidelbergCement's Sustainability Ambitions 2020 that encompasses all its subsidiaries. Theannual practices and performance measurement of the company according to Sustainability Ambitions 2020 are conducted by Akçansa Sustainability Committee. The Sustainability Committee reports the practices realized, performance results obtained, performance improvements achieved in materiality issues to the Executive Board directly and to the Board of Directors by means of risk reports.

A Sustainability Workgroup was organized in order to identify the sustainability priorities of Akçansa. Data collected by the Sustainability Committee through channels such as surveys and researches, satisfaction surveys, workgroup studies, OHS Committees, marketing communication works, competitions, Bridge Days, Neighbour Councils, Sustainability Ambitions 2020 and local and international risks and opportunities were evaluated to determine the priority issues. Sustainability priorities were addressed within the scope of the processes of raw material production, procurement, cement and ready-mixed concrete production, logistics, and sales & marketing, which are the five links forming the value chain Committee.

Akçansa Sustainability Committee is composed of the members of thematic workgroups formed in parallel with strategic targets, communication manager, and coordinator. The committee has been directed by assistant genaral manager of operation function who is member of Akçansa Executive Board. One of these thematic Workgroups is "Climate and Environmental Protection". 2020 target related

C1.3

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

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Efficiency target

Comment
Executive Committee Members, business unite managers and engineers receive monetary reward if they achieve their industrial and operational performance objectives according to the company CO2 reduction related targets such as clinker/cement substitution rate, use of alternative fuels rate, and energy efficiency.

Who is entitled to benefit from these incentives?
Board/Executive board

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
Board Members and Executive Committee Members monetary reward if the overall performance of the Group CO2 related targets are achieved.

C2. Risks and opportunities

C2.1

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

	From (years)	To (years)	Comment
Short-term	0	3	To comply with the current regulations, determine the company's 2030 sustainability goals
Medium-term	3	5	Identify the roadmap for the company's sustainability objectives and initiate the necessary actions
Long-term	5	10	Ensure the company's sustainability goals

C2.2

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

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

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Akcansa's solution strategies for the global climate change are shaped by the Corporate Governance Committee that directly reports to our Board of Directors. As a Heidelberg Cement group company, in Akcansa, risk reports for all business lines are presented to the Group Managing Board on a quarterly basis within the framework of central management reporting to ensure that risks are monitored in a structured and continuous way. Correlations between individual risks and events are considered at local level as far as possible. The process of regular identification is supplemented with an ad-hoc risk report in the event of the sudden occurrence of serious risks or of sudden damage caused. HC Supervisory Board and its Audit Committee also review the effectiveness of the risk management system on a regular basis. In addition, Compliance universe, Sabancı Holding's risk-based management approach, defines our environmental risks and our risks are revised in 6-month periods

C2.2b

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

Akcansa risk strategy on climate change is shaped by the Corporate Governance Committee directly reporting to the Board of Directors. Operations, energy procurement, environment,H&S,risk departments in line with sustainability ambitions ensure an effective coordination. In 2014 Akcansa implemented a new framework to evaluate its all risks. Akcansa invest to keep environmental effects minimum, energy investments are done; fossil fuels are replaced with AFR. Insurance program covers all environmental effects and pollutions.

Akcansa risk policy is based on safeguarding the Group's existence and sustainably increasing its value. The Group's risk catalogue considers financial, strategic, operational, as well as legal and compliance risks. Opportunity and risk management is closely linked by Group-wide planning and monitoring systems. Opportunities are recorded in the annual operational plan and followed in monthly financial reporting. Risk identification is performed regularly by the country management and by Group Internal Audit and Group Insurance&Corporate Risk Department. Correlations between individual risks and events are considered at asset level as far as possible.

Group's risk is assessed via the consolidated examination of all major compound and individual risks by the Managing Board, supported by the Group Insurance&Corporate Risk Department. Risk reports for all business lines are presented to the Managing Board on a quarterly basis. It is supplemented with an ad-hoc risk report on asset and company level in the event of the sudden occurrence of serious risks or of sudden damage caused. The Group Insurance& Corporate Risk Department is responsible for coordinating the risk management processes. It summarizes all significant quantitative and qualitative risks for assets/plants, countries and Group functions on a quarterly basis in a central risk map. The Group Internal Audit Department examines risk management to increase risk awareness

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	"Compliance with Regulations" comes at the top of our risk assessment. - Akçansa "Compliance Universe" - We manage our compliance risk through our risk-opportunity evaluations and our follow-up tables within the scope of the Environmental Management System. Within the scope of the Regulation on Greenhouse Gas Emissions, we prepare reports every year and submit improvement reports. Which are validated by third party accredited firm All regulations related to the environment in turkey is followed by the environment department.
Emerging regulation	Relevant, always included	-Environmental regulations all around the world require higher compliance. In this context, it is a significant risk not to prepare these new requirements. -The risk minimization is also supported with policy engagement activities. E.g. actively participates in the PMR Turkey (Partnership for Market Readiness) Project. Specifically, Turkey seeks the PMR's help in realizing its vision for market-based mechanisms to mitigate GHG. -We are in constant communication with our professional associations to manage this risk. We are working on and preparing for these changes by participating in working groups on environment and climate.
Technology	Not evaluated	Not yet evaluated
Legal	Not evaluated	Not yet evaluated
Market	Relevant, always included	The most important risk factors, Unable to meet customer needs, - Demand increase for low carbon products - Carbon border adjustment
Reputation	Relevant, always included	Decrease in the interest and trust of our stakeholders
Acute physical	Not evaluated	Not yet evaluted
Chronic physical	Relevant, always included	Increased temperature and rainfall irregularity can cause our operational expenses to increase.
Upstream	Not evaluated	Not yet evaluated
Downstream	Not evaluated	Not yet evaluated

C2.2d

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

We manage the risks according to the qualitative and quantitative effects. Opportunities are managed in the same manner by the Business Strategy unit. The quantitative one are represented as an expected value in monetary figures. Qualitative effects are managed according to the severity and probability of occurrence.

Our procedure is in compliance with the HeidelbergCement Risk Management Guidelines. The risks and opportunities are presented to Risk Committee every two months, to HC (QMM risks) and Sabancı (compliance risks) every quarter. Akcansa applies Group's risk catalogue which considers financial, strategic, operational, legal and compliance risks.

Climate change related risks include sales and market risk, substitution of products, volatility of energy and raw material prices, availability of raw materials and additives, environmental regulatory risks, sustainability and compliance risks. Thresholds are established by the individual countries, taking into account their specific circumstances. According to the Group’s risk model and the defined risk category, the risks are assessed with reference to a minimum probability of occurrence of 10% and their potential extent of damage on key parameters.

Opportunities are assessed based on their positive impact on the same key parameters. These are used as a benchmark and include operating income, profit after tax, and cash flow. They are prioritized in the quarterly management meetings, where the Managing Board and country managers discuss and determine appropriate measures. The Managing Board and country managers will be supported in the future by specific risk management working groups for the clarification of specific issues and exchange of information. With regard to climate change related risks and opportunities the substitution of raw materials, increased use of alternative fuels, the development of alternative binder concepts and special products have been identified as priority areas.

C2.3

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

C2.3a

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

Identifier
Risk 1

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

Risk type

Transition risk

Primary climate-related risk driver
Policy and legal: Increased pricing of GHG emissions

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
Paris Climate Agreement might create further limitations due to Turkey INDCs - Intended Nationally Determined Contributions. Akçansa plants should comply with all emission limits to be issued in the regulations. In Turkey there is no regulation or requirement for ETS. The ministry has been working on still capacity building and impact analysis (PMR Project). In case and ETS system is in place cap and trade schemes bear the potential risk to buy emission allowances in case there is no exemption rule applicable or production volumes exceed free allocation. The magnitude of risk is mainly depending on the market price for allowances, the volume of free allocation and our cement production volume.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-low

Potential financial impact

Explanation of financial impact
It may result in the decrease in production capacity and profit/revenue. Additional investments.

Management method
- The management of these risks is integrated into our multidisciplinary companywide risk management processes. The risk minimization is also supported with policy engagement activities. - Contribution in correct calculation of GHG reduction capacities - Lobbying in regulations which will ensure higher accessibility of low carbon and/or biomass type alternative fuels in the market, which will substitute fossil fuels. - The investments are done and planned for low carbon operation.

Cost of management

Comment
- Human resource cost - R&D cost - Energy efficiency projects

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Identifier
Risk 2

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

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Other

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
Integrated environmental permit regulation may require the implementation of sectoral BATs

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact

Explanation of financial impact
Additional investments

Management method
Required investments (determined by the authority) will be planned for implementation.

Cost of management

Comment
Investment cost

Identifier
Risk 3

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

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Rising mean temperatures

Type of financial impact driver
Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Company- specific description
Increasing average temperature cause shortage of water, fluctuation in the water regime.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact
Higher operational cost, investment cost

Management method
- Feasibility studies are conducted with the universities and institutes - Alternative water sources are studies i.e. seawater desalination plants. - Wastewater recovery systems are already installed - Flowmeter Measurement water - Measurement of water usage with flowmeters

Cost of management

Comment
- R&D cost - Operational cost

Identifier
Risk 4

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

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description
High rainfall influences extraction in quarries. Makes difficulties in production, transportation of our products

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Higher operational cost

Management method
Alternative suppliers for raw materials, seasonal raw material stocks

Cost of management

Comment
Operational cost

Identifier
Risk 5

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

Risk type
Transition risk

Primary climate-related risk driver
Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver
Reputation: Reduced revenue from decreased demand for goods/services

Company- specific description
The cement plants are known among highest CO2 emitting industries. Future trends and awareness may affect the company's reputation.

Time horizon
Medium-term

Likelihood

About as likely as not

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Decrease in the interest of clients who seek sustainable and environmental solutions. Decrease in the interest of sustainable investors

Management method
The management of these risks is integrated into our multidisciplinary companywide risk management processes. On the other hand Akcansa puts "Stakeholder engagement" under of the 6 key sustainability pillar. Akçansa is positioning itself not only as a cement/concrete producer but also as waste recycler, energy recovery solution provider, and sustainable construction solution provider. We create long-term strategies and objectives, and we share our progress on sustainability report.

Cost of management

Comment
- Marketing, - Stakeholder engagement activities, - R&D cost

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
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Type of financial impact driver
Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company- specific description
Akçansa with the future international agreements, will switch to a low carbon economy model. Increase of different product requirements on the buildings

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact
- Investment cost for the changes in the plant equipment - Higher interests for new products -R&D requirement

Strategy to realize opportunity
The investments are done and planned for low carbon operation and new product designs. By analyzing the needs of the country, sector and customers, With effective and continuous communication

Cost to realize opportunity

Comment
We are currently in continuous communication with our customers and our industry. Additionally, increase our R&D cost

Identifier
Opp2

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

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient modes of transport

Type of financial impact driver
Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company- specific description
Facilitate access to raw material resources (Drying of very wet areas facilitates transport of raw materials)

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Decreasing stock cost

Strategy to realize opportunity
To create raw material management plans according to necessity

Cost to realize opportunity

Comment

Identifier
Opp3

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

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of recycling

Type of financial impact driver
Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company- specific description
Use of rain / surface waters for operational needs

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Lower water cost Investment cost

Strategy to realize opportunity
Harvesting of rainfall in well-designed collection ponds when irregular rainfall regime has excessive rainfall and use in facilities

Cost to realize opportunity

Comment

Identifier
Opp4

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

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Alternative fuel use)

Company- specific description
Cement sector requires high heat. The use of alternative fuels for this heat instead of conventional fuels is an important opportunity in terms of operatinal cost and GHG reduction

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact
Using of alternative fuel leads to reduce in operational expenses and GHG. GHG reductions, when applied to future carbon pricing tools (tax or ETS) will provide income to the company.

Strategy to realize opportunity
New sources for alternative fuels are being explored and the necessary investments are made to use more alternative fuels.

Cost to realize opportunity

Comment

Identifier
Opp5

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

Opportunity type
Energy source

Primary climate-related opportunity driver
Participation in carbon market

Type of financial impact driver
Increased capital availability (e.g., as more investors favor lower-emissions producers)

Company- specific description
Know-How and experience of shareholder Heidelbergcement in Carbon trading

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact
Possible profit of Carbon Trading

Strategy to realize opportunity
Sharing and increasing know-how in company

Cost to realize opportunity

Comment

Identifier
Opp6

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

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Type of financial impact driver
Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company- specific description
Akçansa with this driver, can apply Life Cycle Analysis approach. By this way, may optimize its operations.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
- Reduced operational cost

Strategy to realize opportunity
Applying Life Cycle Analysis approach in all areas of the value chain. For example, sustainable supply chain practices and new product designs

Cost to realize opportunity

Comment

C2.5

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

	Impact	Description
Products and services	Impacted	In terms of humidity, physical quality of raw material decreasing and leading to clogging in crushers
Supply chain and/or value chain	Impacted	Heavy rainfall causes difficulties in quarrying and transportation
Adaptation and mitigation activities	Not impacted	
Investment in R&D	Not impacted	
Operations	Impacted	In Ladik Plant, due to water scarcity in a few year ago, production stopped and water was brought from a farther source.
Other, please specify	Please select	

C2.6

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

	Relevance	Description
Revenues	Not evaluated	
Operating costs	Not evaluated	
Capital expenditures / capital allocation	Not yet impacted	A new regulation on carbon pricing (Tax or ETS) is expected yo enact in 3-5 years. This will bring about new investments to utilize more alternative fuels.
Acquisitions and divestments	Not evaluated	
Access to capital	Not evaluated	
Assets	Not evaluated	
Liabilities	Not yet impacted	As carbon pricing (Tax or ETS) regulation is under process the regulative liability of company will increase to comply with regulation.
Other	Not evaluated	

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

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

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

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

Yes

C3.1c

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

Climate change influences cement business in many ways. The most critical issue is carbon management. The CO2 emission is unavoidable consequence of decarbonization of limestone, simply the main raw material in clinker with around %75 rate in raw mix, and combustion of fuels in the kiln. The former constitutes 60% and letter 40% of CO2 emissions.

The business strategy firstly focuses on increasing the rate of alternative fuels in the kiln to substitute fossil fuels. Akçansa has clear alternative fuel rate and reduction of specific CO2 emission ambitions for year 2020.Used tyres, municipal waste, sewage sludge and waste oil are the main alternative fuel sources available in the market recently. The access to these sources mostly depends on the market conditions and availability changes from time to time, but the company strategy on the issue is definite. Plants have shifted to use more alternative fuels to substitute fossil fuels. New sources are under research.

Another issue is the water management. Since the rain regime has been changed abruptly the access to water is directly influenced, that is water shortage has become a problem to tackle. It is for sure that rain harvesting should be done in cement plants, today 2 plants have completed investments for rain water. Water recycling became one of the most critical development areas in 3 cement plants of Akçansa in the last 5 years and recycling ponds have been invested to manage the surface water. Moreover, all water wells have been mounted with flowmeters to measure the water withdrawn. Water flow diagrams for plants have been prepared and all water use is measured by flowmeters which enabled to routinely follow up water consumption that helps improve water management. On monthly basis the water data is reported to top management.

And the last thing is the energy efficiency & energy management. Electricity accounts for one of the biggest CO2 emissions. Using alternative energy sources and renewable energy is the way to decrease emissions in this area. Waste hot kiln gas is used (in Çanakkale Plant) to produce energy via waste heat power plant. In that way CO2 emission has been diminished seriously. In addition wind source has been under investigation in Çanakkale region for two years, since the results are positive the investment of the first wind turbine has been initiated. More will be invested in coming years.

Increasing the clinker rate in cement becomes a part of business strategy despite it is largely influenced and shaped by the market demand. Using CEM-II type blended cement rather than CEM-I in ready mixed concrete products benefits very much in diminishing CO2 emissions.

Finally land degradation is another issue that should be considered to combat climate change. Akçansa has a clear strategy and 2020 ambitions to rehabilitate the mining sites that serve natural resources for raw material. This enables the extraction sites to return into a new ecosystem where fauna and flora diversity are recreated.

Akçansa with this clear strategy target to create leadership and awareness in the construction materials market and cement market in Turkey.

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

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

Cement business is an energy intensive industry. Use of fossil fuels and electricity lead to the business being one of the top carbon emitters.

In our low-carbon transition plan mainly 3 issues are in the agenda:

First, substitution of fossil fuels with so called "alternative fuels" is a very big opportunity for the industry. This has been the most critical issue in transition to low carbon economy. Our Plants utilize sewage sludge, shredded tyres and RDF as alternative fuels. The target is to rise the amount in coming years.

Second, decrease of clinker rate in cement is another occasion to mitigate carbon emission. We aim to use more mineral additives and other cementitious by-products like blast furnace slag in cement, so that, use of clinker will dependently go down.

And thirdly, we are going to keep tracking feasibility to invest renewables. One wind turbine was invested in 2016 in Çanakkale Plant that produces 1,8% of electricity needed. This project can be enlarged next years.

C3.1g

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

A detailed scenario analysis is planned.

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

Scope
Scope 1

% emissions in Scope
100

% reduction from baseline year
5.36

Metric
Other, please specify (kg CO2/ton of clinker)

Base year
2010

Start year
2010

Normalized baseline year emissions covered by target (metric tons CO2e)
830

Target year
2020

Is this a science-based target?
No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)
45

Target status
Underway

Please explain
Increasing AF rate is the main drive to decrease CO2 emissions. The market situation and availability of AF determines how to reach the target

% change anticipated in absolute Scope 1+2 emissions
2.5

% change anticipated in absolute Scope 3 emissions
0

C4.2

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

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*	9	1270
Implementation commenced*		
Implemented*		
Not to be implemented		

C4.3b

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

Activity type
Energy efficiency: Building services

Description of activity
Other, please specify (Fan replacement (efficient equipment))

Estimated annual CO2e savings (metric tonnes CO2e)
184

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
118366

Investment required (unit currency – as specified in CC0.4)
630000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
86

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
155000

Investment required (unit currency – as specified in CC0.4)
320000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Efficient lighting (LED applications) (2 Project)

Activity type
Energy efficiency: Building services

Description of activity
Other, please specify (Fan "Variable speed application)

Estimated annual CO2e savings (metric tonnes CO2e)
124

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
76118

Investment required (unit currency – as specified in CC0.4)
115000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment

Activity type
Energy efficiency: Building services

Description of activity
Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)
27

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
54500

Investment required (unit currency – as specified in CC0.4)
150000

Payback period
4 - 10 years

Estimated lifetime of the initiative
11-15 years

Comment
High efficiency engine project

Activity type
Energy efficiency: Building services

Description of activity
Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)
349

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
169000

Investment required (unit currency – as specified in CC0.4)
450000

Payback period
1-3 years

Estimated lifetime of the initiative
21-30 years

Comment
Conversion of coal mill fan motors to "speed controlled motor"

Activity type
Energy efficiency: Processes

Description of activity
Compressed air

improvement of compressed air system

Estimated annual CO2e savings (metric tonnes CO2e)
293

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
199500

Investment required (unit currency – as specified in CC0.4)
782000

Payback period
4 - 10 years

Estimated lifetime of the initiative
16-20 years

Comment

Activity type
Energy efficiency: Processes

Description of activity
Machine replacement

The mill plate change

Estimated annual CO2e savings (metric tonnes CO2e)
206

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
105566

Investment required (unit currency – as specified in CC0.4)
600000

Payback period
4 - 10 years

Estimated lifetime of the initiative
6-10 years

Comment

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Several energy saving gaps have been determined, accordingly necessary budget for heat and electrical energy optimization projects are planned for each plant.
Dedicated budget for low-carbon product R&D	Low carbon products both in cement and ready-mixed business line are developped, necessary budgeting is planned for the R&D projects and or necessary revisions in the existing production systems.
Partnering with governments on technology development	Cooperation with institutes and governmental bodies to develop innovative concrete products, to study use mineralizer to optimize calorific energy need and to enhance cement product resistance. This will bring considerable clinker savings, thus process CO2 will be minimized.
Employee engagement	The employees performance is evaluated and awarded by the success of the key perfmance indicators like energy efficiency, AFR, clinker/cement ratio targets resulting in CO2 reduction

C4.5

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

C4.5a

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

Level of aggregation
Product

Description of product/Group of products
Green Concrete (A+Beton, Yeşilşap) Low clinker - cement

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

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

% revenue from low carbon product(s) in the reporting year
25

Comment
A+Beton is a durable and high performing concrete product with a significantly reduced CO2 emission value due to the use of blast furnace slug for up to 70% in its composition, and is developed for environmentally friendly green buildings. Yeşilşap, an environmentally friendly and light ready screed product, reduces CO2 emission by up to 35% through special additive blend cements used in its production process. Due to the special chemical additives used, Yeşilşap weighs 25% less when compared with conventional screed products and also contributes to thermal insulation on buildings.

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	77

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
5872720

Comment

Scope 2 (location-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
338163

Comment

Scope 2 (market-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)

Comment

C5.2

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

Row 1

Gross global Scope 1 emissions (metric tons CO2e)
6052352

End-year of reporting period
<Not Applicable>

Comment

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

C6.3

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

Row 1

Scope 2, location-based
272269

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

End-year of reporting period
<Not Applicable>

Comment

C6.4

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

C6.4a

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

Source
Ready mix concrete plants and aggregate plants are not included

Relevance of Scope 1 emissions from this source
No emissions from this source

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

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

Explain why the source is excluded
This source does not emit Scope 1 emission, only Scope 2. Scope 2 (indirect energy use) is relatively very low compared to cement plants

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
14365.22

Emissions calculation methodology
Fuel consumption data is gathers, and IPPC diesel emission factor (unit, kg CO2/GJ) is used to calculate CO2 emission.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Calculation includes consumption of fuel consumed for extraction, production, and transportation (from the quarry to cement plants) of raw materials

Capital goods

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

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

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
1357.56

Emissions calculation methodology
DEFRA emission factor (unit, kg CO2/km) is used to calculate CO2 emission.

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

Explanation
The transport of fuels has been included in the calculation.

Upstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
5749.72

Emissions calculation methodology
DEFRA emission factor (unit, kg CO2/km) is used to calculate CO2 emission.

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

Explanation
The transport of raw materials which come from tier 1 soppliers has been included in the calculation

Waste generated in operations

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Most of the waste generated in the plants are co-incinerated in the cement plant itself, therefore waste related CO2 is negligable.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
655.27

Emissions calculation methodology
Myclimate website for flights

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
All flights have been taken into calculation.

Employee commuting

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
276.63

Emissions calculation methodology
DEFRA emission factor (unit, kg CO2/km) is used to calculate CO2 emission.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Total km from shuttles for employee commuting has been used.

Upstream leased assets

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Downstream transportation and distribution

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Processing of sold products

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Use of sold products

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

End of life treatment of sold products

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Downstream leased assets

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Not applicable

Investments

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (upstream)

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (downstream)

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

C6.7

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

C6.7a

(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.
77314

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
0.004

Metric numerator (Gross global combined Scope 1 and 2 emissions)
6324622

Metric denominator
unit total revenue

Metric denominator: Unit total
1519000000

Scope 2 figure used
Location-based

% change from previous year
0

Direction of change
No change

Reason for change
There is no change

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	0.871	0.856	0.039
Cement equivalent	0.776	0.763	0.035
Cementitious products	0.78	0.767	0.035
Low-CO2 materials	3.99	3.92	0.18

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Turkey	6052352

C7.3

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

By facility

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
Büyükçekmece Plant	1812583	41.0118	28.3327
Çanakkale Plant	3639145	39.5156	26.1439
Ladik Plant	600624	40.5607	35.5306

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	6052352	5949829	
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Turkey	272269		696341.22	0

C7.6

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

By facility

C7.6b

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

Facility	Scope 2 location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Büyükçekmece Plant	99955	
Çanakkale Plant	132524	
Ladik Plant	39790	

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	272269		Scope 2, market-based (not applicable)
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Remained the same overall

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	2624	Decreased	0.04	Our scope 2 emissions have fallen due to our renewable energy consumption but there has been no decrease in total emissions for production increase.
Other emissions reduction activities	1269	Decreased	0.02	Our scope 2 emissions have fallen due to our energy efficiency projects, but there has been no decrease in total emissions for production increase.
Divestment	0	No change	0	Not applicable
Acquisitions	0	No change	0	Not applicable
Mergers	0	No change	0	Not applicable
Change in output	18735	Increased	0.29	total emissions increased due to production increasing
Change in methodology	0	No change	0	Not applicable
Change in boundary	0	No change	0	Not applicable
Change in physical operating conditions	0	No change	0	Not applicable
Unidentified	0	No change	0	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 40% but less than or equal to 45%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	6851084.93	6851084.93
Consumption of purchased or acquired electricity	<Not Applicable>	0	696341.22	696341.22
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>	6711.38	<Not Applicable>	6711.38
Total energy consumption	<Not Applicable>	6711.38	7547426.15	7554137.53

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)	6851084.93
Consumption of purchased or acquired electricity	<Not Applicable>	696341.22
Consumption of other purchased or acquired energy (heat, steam and/or cooling)	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	7554137.53

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

C8.2c

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

Fuels (excluding feedstocks)
Petroleum Coke

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4454634.83

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
180025.31

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Fuel Oil Number 1

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
14631.32

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Tires

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
367223.52

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Waste Oils

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4250.5

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Other, please specify (Sewage sludge)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
121810.98

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Other, please specify (Waste derived fuel)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
80912.5

MWh fuel consumed for the 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>

Fuels (excluding feedstocks)
Other, please specify (Mixed industrial wastes)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1721.33

MWh fuel consumed for the 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>

C-CE8.2c

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

Fuels (excluding feedstocks)
Petroleum Coke

Heating value
LHV

Total MWh fuel consumed for cement production activities
4454634.83

MWh fuel consumed at the kiln
4454634.83

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Coal

Heating value
LHV

Total MWh fuel consumed for cement production activities
180025.31

MWh fuel consumed at the kiln
180025.31

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Fuel Oil Number 1

Heating value
LHV

Total MWh fuel consumed for cement production activities
14631.32

MWh fuel consumed at the kiln
14631.32

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Tires

Heating value
LHV

Total MWh fuel consumed for cement production activities
367223.52

MWh fuel consumed at the kiln
367223.52

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Waste Oils

Heating value
LHV

Total MWh fuel consumed for cement production activities
4250.5

MWh fuel consumed at the kiln
4250.5

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Other, please specify (Sewage Sludge)

Heating value
LHV

Total MWh fuel consumed for cement production activities
121810.98

MWh fuel consumed at the kiln
121810.98

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Other, please specify (Waste derived fuel)

Heating value
LHV

Total MWh fuel consumed for cement production activities
80912.5

MWh fuel consumed at the kiln
80912.5

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

Fuels (excluding feedstocks)
Other, please specify (Mixed industrial waste)

Heating value
LHV

Total MWh fuel consumed for cement production activities
1721.33

MWh fuel consumed at the kiln
1721.33

MWh fuel consumed for the generation of heat that is not used in the kiln
0

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

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

C8.2d

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

Coal

Emission factor
96

Unit
kg CO2 per GJ

Emission factor source
IPCC defaults

Comment

Fuel Oil Number 1

Emission factor
74.1

Unit
kg CO2 per GJ

Emission factor source
IPCC defaults

Comment

Petroleum Coke

Emission factor
92.8

Unit
kg CO2 per GJ

Emission factor source
CSI defaults

Comment

Tires

Emission factor
85

Unit
kg CO2 per GJ

Emission factor source
CSI defaults

Comment

Waste Oils

Emission factor
74

Unit
kg CO2 per GJ

Emission factor source
CSI defaults

Comment

Other

Emission factor
83

Unit
kg CO2 per GJ

Emission factor source
For mixed industrial waste; CSI Default

Comment

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	100861.94	100861.94	6711.38	6711.38
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-CE8.2e

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

	Total gross generation (MWh) inside the cement sector boundary	Generation that is consumed (MWh) inside the cement sector boundary
Electricity	100861.94	100861.94
Heat	0	0
Steam	0	0

C8.2f

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

Basis for applying a low-carbon emission factor
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

Low-carbon technology type
Wind

MWh consumed associated with low-carbon electricity, heat, steam or cooling
6711.38

Emission factor (in units of metric tons CO2e per MWh)
0

Comment
Our wind turbine capacity 2,35 MW and annually can produce 7.844 MWh This amount is equivalent to nearly 2% of the total electricity consumption of the our factory. Turbine has been working since september 2016.

C9. Additional metrics

C9.1

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

C-CE9.3a

(C-CE9.3a) Report your organization's split between white and grey cement production.

	Percentage of total production (%)
White cement	
Grey cement	

C-CE9.3b

(C-CE9.3b) Report your organization's clinker production and capacity percentage figures by kiln type.

	Percentage of metric tons of clinker production (%)	Percentage of metric tons of clinker capacity (%)	Comment
Dry kiln			
Semi-dry kiln			
Semi-wet kiln			
Wet kiln			
Shaft kiln			
Long kiln			
Other			

C-CE9.3c

(C-CE9.3c) Report your organization's cement-related production outputs and capacities by product.

	Production (metric tons)	Capacity (metric tons)
Limestone		
Gypsum		
Clinker		
Cement equivalent		
Cementitious products		
Low-CO2 materials		
Lime		

C-CE9.6

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

Investment start date
December 1 2017

Investment end date
June 30 2018

Investment area
Property, plant and equipment

Technology area
Fuel switching

Investment maturity
Large scale commercial deployment

Investment figure
2036000

Low-carbon investment percentage
0 - 20%

Please explain
This investment enables Canakkale PLant to utilise more shreded tyres as alternative fuel substituting coal to burn in kilns. The result is emitting low carbon in cement production.

Investment start date
June 4 2015

Investment end date
December 29 2016

Investment area
Property, plant and equipment

Technology area
Other, please specify (Renewable energy (Wind Turbine))

Investment maturity
Large scale commercial deployment

Investment figure
8932000

Low-carbon investment percentage
0 - 20%

Please explain
The wind turbine investment, as the first one in Turkish cement industry, provides the Plant to produce electricty from renewable and clean source. The turbine supplies 1,8% of total energy need of Plant.

Investment start date
March 3 2015

Investment end date
September 10 2015

Investment area
Property, plant and equipment

Technology area
Carbon capture and storage (CCS)

Investment maturity
Applied research and development

Investment figure
500000

Low-carbon investment percentage
0 - 20%

Please explain
This R&D project has been developed with academicians in Canakkale University. The aim is to produce Microalgea with the help of kiln exhaust gases, mainy the CO2. This is a CCS project clearly having a potential to mitigate CO2 emmissions.

C10. Verification

C10.1

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

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

C10.2

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

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

C11. Carbon pricing

C11.1

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

No, but we anticipate being regulated in the next three years

C11.1d

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

As we have in our policy, strategy and vision, we are working for low carbon production by ensuring energy efficiency, increasing the use of alternative raw materials and alternative fuel.

In addtion, Actively participate with policy engagement activities. E.g. the PMR Turkey (Partnership for Market Readiness) Project. Specifically, Turkey seeks the PMR's help in realizing its vision for market-based mechanisms to mitigate GHG.

C11.2

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

No

C11.3

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

No, and we do not currently 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, 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)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Impact of engagement, including measures of success

Comment
We give sustainability training to our suppliers at Büyükçekmece plant.

C12.1c

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

As prior opportunity İn combatting climate change we contact tol ocak municipilities for utilazation of sewage sludge an an alternative fuel. The based example is the engagement with İstanbul municipality water affairs (ISKI) THE DRİED sewage sludge from biological treatment plants directly suplied to our cement plant in İstanbul. The utilazation rate has been inreasing in years.

C12.3

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

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support with major exceptions	Akçansa engages in contributing in the issuance of mandatory carbon reporting regulation which includes cement industry emission reporting. Akçansa environmental department contributes in the preparation of the content of the reporting guideline, to ensure cement industry calculates and report in a correct method.	Based on, the Turkish MRV regulation, verification process has been started for 2015 and 2016 reports.
Cap and trade	Neutral	Turkey profits from a World Bank funding on Carbon Market Readiness Partnership program (PMR). Akcansa support the Ministry of Environment and Urbanism on the implementation of this pilot program	PMR Project has not been finalized yet
Energy efficiency	Support with minor exceptions	Akcansa support the energy efficiency policy, and position itself in leveraging the industry by promoting the best practices at public speeches and seminars.	There are energy efficiency related regulations, no further proposal yet.

C12.3e

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

Akçansa is closely working with the universities (ITU, Sabancı University) and R&D institute TUBITAK to create and to optimize low carbon product and resource efficiency solutions.

In Çanakkale plant a pilot project named “Microalgae” has been developed in cooperation with “Çanakkale 18 Mart University” academicians. The project has been initiated with the laboratory studies and the pilot implementation has been invested in Akçansa Çanakkale Plant. The algae cultures grown in the lab conditions are put in the ponds and then feed with the hot gas directly taken from the kiln stacks. The CO2 in the gas flu feeds the algae until they become well stressed to harvest. The harvested microalgae are dried out and become a product as alternative fuel, or used in salmon fishery and cosmetics industry. This pilot project proves kiln hot gas (containing CO2) can be used to produce microalgae and to decrease CO2 emissions from combustion .

We are involved in working groups and projects on climate change and sustainability issues.
• ÇEVKO (Environmental protection foundation - sustainability and climate change working group)
• WBCSD Turkey (Circular economy, water and sustainability reporting working groups).
• TUSIAD (the Turkish Industry and Business Association - Environmental and sustainability working group)
We give opinions in the regulations changes, lobbying activities in relevant authorises develop projects and involve in projects, work to raise awareness and knowledge about climate change and sustainability, and support the public through working groups for COPs.

For example, we have been involved in a project named The Materials Marketplace, initiated by WBCSD Turkey, which aims company-to-company industrial reuse and contribute to the “circular economy”. There is a cloud-based platform and traditional and non-traditional industrial waste streams are matched with companies’ need.
This project leads to minimize waste that sent to landfills, save the energy and mitigate natural resource using.
We aim to minimize our impact on climate change and contribute to environment by using new alternative raw materials and fuels.

C12.3f

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

Akçansa puts 2020 sustainability ambitions which covers CO2 reduction, low carbon product, Environmental Product Declaration targets, which provide clear direction for the activities. Executive committee and the sustainability committee periodically check the progress. The results are shared with the stakeholders through sustainability report available on Akçansa web site. Additionally, all personal targets available in the scorecards are connected to the corporate sustainability targets.

CO2 emissions are calculated and reported regularly to top management as well as HeidelbergCement. In 2015, the annual GHG emission plans have been issued to Ministry of Environment and the annual emissions are verified and reported to the ministry as well.

C12.4

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

Publication
In voluntary sustainability report

Status
Underway – previous year attached

Attach the document
AKÇANSA SUSTAINABILITY REPORT 2014 -2015.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In other regulatory filings

We send our annual emissions reports to the ministry under the MRV regulation, and are verified by 3rd parties.

Status
Complete

Attach the document

Content elements
Emissions figures

C14. Signoff

C-FI

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

C14.1

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

	Job title	Corresponding job category
Row 1	General Manager	Board/Executive board

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please confirm below
I have read and accept the applicable Terms