

Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

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

Akcansa, a JV of Sabancı Holding and HeidelbergCement, is the leader of Turkish Cement industry. Operating in the Marmara, Aegean, and Black Sea regions, Akçansa produces cement and clinker in its three facilities located in Istanbul-Büyükçekmece, Çanakkale, and Samsun-Ladik. Company also has total seven cement terminals located in Istanbul-Ambarlı, İzmir-Aliağa, Yalova, Yarımca, Hopa, Derince, and Marmara Ereğlisi, as well as ready-mixed concrete operations under “Betonsa” brand at 25 Facilities and aggregates operations under “Agregasa” brand in 1 Facility.

Akçansa aims to be “the highest quality in production and service” in order to meet the demands of both its domestic and international customers and to compete beyond the price.

Akçansa, the leader of the Turkish cement industry, meets 10% of Turkey’s cement need as well as 16% of Turkey’s total cement and clinker export with its products complying to the global quality standards, its eco-friendly identity awarded by the Istanbul Chamber of Industry, its outstanding service understanding, and its plants equipped with high technology.

Akçansa’s vision statement “Sustainable growth beyond all limits” reflects Company’s sustainability strategy which is in line with Company’s business strategy. The sustainability journey dates back to 2009 when Sustainability Committee was established, and 2020 Sustainability Ambitions were set. The sustainability vision is maintained by the Company’s mission as well which is “to be a leading building materials company” enhancing the quality of life of the society by means of our culture committed to environmental, legal and ethical principles.

Our climate change strategy mainly focuses on reduction of CO2 emissions through maximizing alternative fuels and biomass, decreasing rate of clinker in cement and increasing energy efficiency. Akçansa adopts a sustainability management approach as the main element of its corporate vision, covering all business processes from raw material production to after-sales services to end-users. We are participatory of the UN Global Compact, UN Women’s Empowerment Principles, CDP Climate Change/Water programs and a member of WBCSD Turkey.

In 2018, sustainability management has been reorganized and Akçansa 2030 sustainability targets are set in 2020. In the new sustainability management structure, Sustainability Working Committee (SWC) takes the key position to set corporate targets and to develop and implement projects. Being chaired by Deputy General Manager (DGM) of Operations Function who directly reports to General Manager (GM), it is composed of 6 pillars managed by relevant corporate managerial positions. Committee Members build Working Groups (WGs) or Task Forces (TFs) to develop and implement projects to maintain sustainability targets. SWC reports to Sustainability Steering Committee (SSC) which consists of Akçansa Executive Committee Members (GM and DGMs). Its main mission is to approve and follow up sustainability targets & relevant projects. And finally, SSC reports to Akçansa Board of Directors which is responsible of defining sustainability vision and strategy. In Board, Chairman is representing Sabancı Holding and Vice President is representing HeidelbergCement. Akçansa GM shares key sustainability KPIs and relevant ongoing projects to Board regularly. From setting up of sustainability strategy to follow up targets and approval of investment budgets, SSC and Board of Directors directly own the whole process. The climate-related targets (alternative fuel rate and energy efficiency KPIs) are defined by Deputy GM-Operations, Facility Managers and Raw Materials & Environmental Manager (RMEM), both are direct reports of Deputy GM-Operations. RMEM is Head of “Reducing Environmental Footprint” pillar in SWC. He is supported by direct reports (environmental engineers at Facilities responsible of 14001 EMS management, compliance to regulations, CO2 emissions follow-up/calculations/reporting). Climate-related targets are reviewed and approved by SSC. Targets are extended to relevant employee at 3 Facilities through annual personal performance targets. Alternative Fuels & Energy Manager and his team, responsible of sourcing alternative fuels to Facilities, also have annual performance targets on alternative fuel supply rate and cost. CO2 emissions (total of 3 Facilities) are reported to HeidelbergCement annually. CO2 calculations are based on “WBCSD Cement Sustainability Initiative Cement CO2 and Energy Protocol, Version 3.1 CO2 Emissions and Energy Inventory”.

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
Reporting year	January 1, 2020	December 31, 2020	No

C0.3

(C0.3) Select the countries/areas 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 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

Aggregates production

Concrete production

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board Chair	Akçansa Board of Directors are the highest-level individuals with direct responsibility for all climate-related issues. Chairman is representing Sabancı Holding as President of Cement Business Unit. He is informed regularly by Akçansa CEO (General Manager) on behalf of the Sustainability Steering Committee in Akçansa Board Meetings. His responsibility is to approve a sustainability vision, strategy and targets. The most recent Akçansa 2030 Sustainability Targets were approved by the Chairman.
Other, please specify Vice Chairman	Akçansa Board of Directors are the highest-level individuals with direct responsibility for all climate-related issues. Vice President is representing HeidelbergCement as Vorstand Member responsible from CEO Africa & East Mediterranean. He is informed regularly by Akçansa CEO on behalf of the Sustainability Steering Committee in Akçansa Board Meetings. His responsibility is to define sustainability vision and strategy.
Director on board	Akçansa Board of Directors are the highest-level individuals with direct responsibility for all climate-related issues. Other Board Members have the responsibility to discuss, propose, monitor and inspect sustainability vision and strategy. One of the Board members is the President of Early Risk Identification Committee which evaluates climate-related risks as well.

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	Cement industry currently represents about 7-9% of CO2 emissions globally and needs to take actions to reduce it for a low carbon future. Besides, climate-related risks become a

	<p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>more critical issue worldwide. From that perspective, Akçansa Board takes the highest responsibility to define sustainability vision and strategy in the company's transition to low carbon future. For cement business use of any sort of available alternative fuels instead of fossil fuels is the main potential to mitigate the impact on climate change. That's been clearly defined by the Board in company sustainability strategy. In Board meetings, this topic is followed up and evaluated under operational performance of Plants including substitution rate of alternative fuels in fuel mix and energy efficiency KPI's. From this perspective, the Board has the responsibility to review and approve annual budgets and investment plans. One of the Board members is the President of Early Risk Identification Committee which handles climate-related risks as well. The Committee review and guide sustainability & risk management policies. More broadly, the Board is also periodically informed by the Sustainability Steering Committee on setting and/or evaluating the progress against set sustainability targets which include KPIs on measuring climate-related performance.</p>
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C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief 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	Quarterly
Process operation manager	Assessing climate-related risks and opportunities	Quarterly
Facility manager	Both assessing and managing climate-related risks and opportunities	Quarterly

Other, please specify Raw Materials & Environmental Manager	Both assessing and managing climate-related risks and opportunities	Quarterly
Risk manager	Assessing climate-related risks and opportunities	Quarterly
Other, please specify Alternative Fuels and Energy Manager	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Climate -related issues are one of the top priority topics undertaken as part of sustainability management at Akçansa.

Akçansa Board of Directors is the highest level which is responsible of defining sustainability vision and strategy. **Akçansa CEO (GM)** both approves and reports on key sustainability KPIs and relevant ongoing projects to the Board members twice a year on behalf of Sustainability Steering Committee. Chairman of the Board is representing Sabancı Holding as President of Cement Business Unit. His responsibility is to approve sustainability vision and strategy. Vice President is representing HeidelbergCement as Vorstand Member responsible from CEO Africa & East Mediterranean. His responsibility is to define sustainability vision and strategy. Other Board Members have the responsibility to discuss, propose, monitor and inspect sustainability vision and strategy. One of the Board members is the President of Early Risk Identification Committee which handles climate-related risks as well.

Sustainability Steering Committee (SSC) consists of Akçansa Executive Committee Members (CEO and other C-Suite Officers (Deputy GMs)). Its main mission is to approve and follow up sustainability targets & climate change related projects. SSC meets twice a year in which Chairman of SWC shares important issues to SSC members.

Sustainability Working Committee (SWC) takes the key position to set corporate targets as well as to develop and implement projects. Being chaired by Deputy GM-Operations Function who directly reports to Akçansa GM, it is composed of 6 pillars namely; Innovation & Industry 4.0, Occupational Health & Safety, Reducing Environmental Footprint, Stakeholder Engagement, Circular economy and Compliance & Transparency. Each pillar is managed by relevant corporate managerial positions. Committee Members build Working Groups (WGs) or Task Forces (TFs) to develop and implement projects which would maintain to reach sustainability targets. The Committee meets every 4 months.

Chief Operating Officer (Deputy GM for Operations) has the responsibility of chairing the SWC and member of SSC. 3 plant managers directly report to him. He sets the climate related targets (such as alternative fuel rate and energy efficiency KPIs) together with Plant Managers and Raw Materials & Environmental Manager (both are direct reports of Deputy GM-Operations).

Facility Managers are responsible of setting the climate change related targets (such as alternative fuel rate and energy efficiency KPIs) together with Deputy GM-Operations and raw materials and Environmental Manager. They monitor these KPIs regularly and reports.

Raw Materials & Environmental Manager is the Head of “Reducing Environmental Footprint” pillar in SWC. He is supported by his direct reports (Environmental Team: environmental engineers at plants responsible of ISO 14001 EMS management, compliance to regulations, CO2 emissions follow-up/calculations/reporting). He is responsible of setting the climate change related targets (such as alternative fuel rate and energy efficiency KPIs) together with Deputy GM-Operations and Plant Managers. Additionally, he sets the climate related risks together with Corporate Risk Manager.

Corporate Risk Manager define and follow climate related risks Raw Materials & Environmental Manager. He is a direct report of Sabancı Holding Risk Management Director. He reports climate related risks to Sabancı Holding regularly.

Alternative Fuels & Energy Manager and his team are responsible of sourcing alternative fuels to plants, also have annual performance targets on alternative fuel supply rate and cost.

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	There is management by performance targets process in place at Akcansa. Each individual has its own targets which are set in the Q1 after approval of Deputy GMs (Deputy GMs) and GM. Targets are reviewed at the end of Q2 for feedback and Q4 for final assessment. Targets are set from top to bottom that means GM targets are set first, then AGM targets are set and finally the rest come. Performance targets of all levels include various sustainability KPIs ranging from Alternative Fuel, Biomass and Raw Material Utilization, contribution of Digitalization in increasing environmental performance, improvement of emissions management etc. Based on performance score -if an employee reaches its own target plus company reaches its economic targets- then employee receives monetary incentives.

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
All employees	Monetary reward	Emissions reduction project Energy reduction project Efficiency project	Akçansa has a “Suggestion System” and “Continuous Improvement Project” both of which are open to all white-collar and blue-collar employee aiming for engagement and operational continuous improvement. This system encourages all employee to provide suggestions on any kind of projects and topics including enhancement of environmental management system, energy efficiency, increasing alternative fuels rate all of which directly contribute to Climate Change Management. Suggestions which are awarded bring the monetary award to white-collar employee and additional promotional opportunities to blue-collar employee.
Other, please specify White collar employee (from General Manager to Engineers)	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	All Akçansa white collar employee from CEO to Engineers benefit from monetary reward based on their performance achievements throughout the year. The annual personal performance targets are set in the beginning of year. Climate-related targets include plant specific KPIs such as energy efficiency, rate of alternative fuels and biomass in fuel mix, clinker/cement ratio. Those who achieves operational performance targets are rewarded with a bonus payment on a yearly basis.
Board/Executive board	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	Board Members and Executive Committee Members receive a monetary reward if the overall performance of the Group CO2 related targets is achieved.
Corporate executive team	Monetary reward	Emissions reduction target	Board Members and Executive Committee Members receive a monetary reward if the overall performance of the Group CO2 related targets is achieved.

		Energy reduction target Efficiency target	
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project Energy reduction project Efficiency project	All Akçansa white collar employee from CEO to Engineers benefit from monetary reward based on their performance achievements throughout the year. The annual personal performance targets are set in the beginning of year. Climate-related targets include plant specific KPIs such as energy efficiency, rate of alternative fuels and biomass in fuel mix, clinker/cement ratio. Those who achieves operational performance targets are rewarded with a bonus payment on a yearly basis.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	3	In Akçansa, short term Strategic Plan covers a 3-year lifespan and is revisited frequently and updated if needed.

Medium-term	3	5	Akçansa's mid-term definition covers 3 to 5 years and the Company Mid-term Action Plan is determined in and monitored against the 5 year Master Plan.
Long-term	5		Akçansa considers beyond 5 years is a long-term period. The vision for long term is guided with a 10-year Master Plan. In addition to this, while addressing its climate change actions, Akçansa considers 2030 and 2050 as key milestone years & sets targets accordingly. Moreover, both our shareholders Sabancı Holding and Heidelberg Cement also sets climate-related targets for 2050.

C2.1b

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

Akçansa manages its risks in line with both Sabancı Holding and Heidelberg Cement risk management procedures/ guidelines, and evaluates corporate level as well as asset level risks under multiple categories, namely; financial, operational (service breakdown/disruption) customer, supplier, employee, reputational and compliance risks. Substantive financial and strategic impacts, which are risks that are scored/classified as critical risks, are defined as effects that pose a risk to undermine the entire business. Corporate level substantive risks are defined;

Quantitatively as risks above USD 1 mio; TL 7.43 mio (Indicative Exchange Rate announced on 12/31/2020 by the Central Bank of Turkey as 7.4327 USD/TL) on an annual basis

Qualitatively as risks that are a threat to our core business model and business continuity which are evaluated considering risk categories and calculated by Risk Methodology heatmap.

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

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

Akçansa identifies, assesses and manages climate-related risks as a part of Integrated Management System (IMS) that includes ISO 14001:2015. Climate-related transition and physical risks that may arise from climate change-related impacts especially risks regarding compliance to environmental regulations are reported to Sabancı Holding through “Compliance Risks Report”, a consolidated risk follow-up inventory is updated on a quarterly basis. This procedure directly linked to Sabancı Holding Risk Management Procedure and HeidelbergCement Risk Management System Guidance. The risks from the operation at facilities are managed through ISO 14001:2015 Environmental Management System standards. Each department (operation, environment, finance, legal, sales, etc.) defines and assesses their risks according to the defined thresholds, which are then checked by the Environmental Engineer and Plant Managers. High (Substantive) climate-related risks are assessed by Raw Materials & Environmental Manager and Corporate Risk Manager. The action/mitigation plans are evaluated and approved by the Sustainability Steering Committee. In the meantime master plans of plants are developed in every 3-5 years period. These studies have been contributed by Operations Team members including Plant Managers and Plant Executive Team, Corporate managers for Environment, Sustainability, Raw Materials, Maintenance, Project, R&D, Process under leadership of Operations Assistant general Manager (AGM). The Master Plan is a very critical and key component of this assessment. All facts regarding current status, future forecast/expectations (including regulatory changes) and technical needs are evaluated in these Master Plans. Here, the impact of climate related issues on finance and plant's operating strategies are considered. The current Master Plan covers the period of 2020-2030.

As part of physical risks, Akçansa evaluates climate-related main substantive risk as acute extreme weather events (floods or heavy hail) which may cause a risk to production disruption either due to upstream impacts on continuous supply chain processes, or as a result of damage to our production plants, quarries or ports which will last over a day of a production stoppage. In order to manage these types of physical risks in line with company level risk management procedure, Akçansa implements a number of initiatives such as; insuring all its facilities from a wide-range

of impacts including extreme weather events; having a certain level of raw material and fuel stock to prevent supply chain-related production disruption due to physical climate-related events.

As part of substantive climate-related transition risks, operating in a cement sector, one of Akçansa's most material sustainability topic, as well as a potential substantive impact risk is greenhouse gas emissions (will be referred to as CO2 emissions or carbon). Recent developments on establishing a pricing system/mechanism on carbon via emerging regulations on both a national & international level, will result in significant direct/indirect cost increase for Akçansa. Therefore, is evaluated as a substantive climate-related transition risk. In order to manage this risk, Akçansa has developed a mitigation plan including a number of measures to reduce CO2 emissions such as energy efficiency projects, increase the use of alternative fuels and biomass instead of fossil fuels and implement on site renewable energy generation systems.

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	Akçansa always values all regulatory risks relevant as part of its risk assessment process, including regulations regarding climate-related related issues. Currently, only direct climate-related regulation in force in Turkey is "the Monitoring Reporting Verification of GHG emissions" which has been in force since 2015. Based on this regulation, we calculate, obtain verification and report our CO2 emissions to the Ministry of Environment and Urbanisation on an annual basis. The report also includes the areas of improvement. This regulation bears no financial sanction at the moment other than non-compliance fine that may result from not disclosing CO2 emissions within the defined deadline.
Emerging regulation	Relevant, always included	Similar to the current regulations, Akçansa considers all (including emerging) regulatory risks as relevant and always assesses these potential risks as part of its company-wide risk assessment process. Turkey has not ratified Paris Agreement yet through approval by the parliament however Ministry of Environment and Urbanization has been working on PMR Project (Partnership for Market Readiness), with the funding of World Bank, to define the best system for carbon pricing to be implemented in Turkey. As a result of an advanced stage simulation, it is likely that the pricing system to be implemented will be an emission trading scheme (ETS). It is not defined yet when a carbon pricing system will start; however, it is expected to be in force over the medium term. This means potential carbon limitation, quotation and pricing will come which can potentially result in a significant cost increase for companies operating in high emission intensity sectors such as Akçansa.

Technology	Relevant, always included	<p>Since Akçansa is a technology driven company, risks arising from adopting the optimum & potential low-carbon technologies is always relevant for the company. Technology risks are defined by Digitalisation & Industry 4.0. Manager, a direct report of General Manager, and reported by Corporate Risk Manager to Sabancı Holding Risk Committee. A likely risk from technology could be that plants may not operate without a carbon mitigation project (carbon capture and storage etc.) Our carbon mitigation strategy takes such risk into consideration in a way to maximise alternative fuel rate in fuel mix. On the other hand, technological improvements bring opportunities to cement business to combat climate change. Machine learning, Internet of Things, various kind of sensor systems are available today to control process systems. In order to manage technology related risks, we use full automation systems in our plants to provide the best burning conditions so that maximum use of alternative fuels is enabled. This is surely needed for low carbon future. Similarly, new sensor systems are used at various stages in the process bringing about energy efficiencies. Very huge fans, motors are followed-up and more precisely controlled thanks to technological improvements. Carbon capture and storage is underway in the sector we continue our research on this technology. We closely follow up the progress with experts at our shareholder HeidelbergCement.</p>
Legal	Relevant, always included	<p>Akçansa deems all legal risks as relevant including climate-related potential litigation risks. In order to have a social license to operate and comply with all regulatory requirements, potential climate-related legal risks are closely monitored and assessed by the Operations and Legal departments. It is regularly evaluated and quarterly reported to Sabancı Holding via Compliance Risk Report. As the awareness on climate change and its potential impacts increases, number of exemplary litigation cases have started to rise on an international level. There has been no climate-related litigation case for Akçansa, and we take every possible precautionary action to prevent such cases in the future too.</p>
Market	Relevant, always included	<p>All types of market risks are always deemed relevant and included in our risk assessment process. Recently, customer behaviours are changing very rapidly and their awareness on climate change also increases. That, indeed, brings for us the need to take various proactive measures in order to meet with increasing/changing customer/market requirements to effectively manage this risk. Marketing & Sales department monitors and manages this risk. Today what we see in the market is that demand for low-carbon cement has been increasing and accordingly rate of green building projects in the market is rising. Hence research on new product type becomes important. Akçansa R&D department continuously works on projects for high quality low carbon cement/cementitious products. We perform projects for alternative building materials with considerably less carbon emissions with academicians at Sabancı University.</p>

Reputation	Relevant, always included	<p>Reputation is a critical risk and needs special management in cement business which is, due to its consumption of natural raw materials, fossil fuels and resulting carbon emissions, unfortunately has some disadvantages from external stakeholders' perspective. Therefore, reputational climate-related risks are always deemed relevant as part of our risk assessment. This topic has become more critical after Paris Agreement which brought the emissions issue more open insight to public. Akçansa manages this risk via the coordination of Plant Managers, Operations department and Corporate Communications Manager. We use alternative fuels, mostly consisting of waste otherwise would have been dumped or disposal, and use this source to replace conventional fossil fuel that have significantly higher impact on CO2 emissions. We burn industrial and municipal wastes, end of life tyres and optimize/reduce our CO2 emissions with the highest technology measurement devices. We have "Neighbour Councils" at each Plant which consists of community, authority representatives. The aim is to build an open and transparent communication with them where we present the plant's status, new projects etc and listens to their voice. That is a very effective way of communication that helps a lot managing reputation. We also do use social media to explain our climate-related/carbon mitigation R&D projects (low CO2 cement, alternative cementitious products).</p>
Acute physical	Relevant, always included	<p>We consider acute physical climate-related risks very much likely to happen in short terms and they could have a serious impact to our production plants and result in additional cost and potential physical damages. Therefore, this risk type is deemed relevant and is always included in our risk assessment. Turkey, unfortunately like every single part of the world, faces increasing acute physical risks at country level, such as unpredictable/extreme rainfalls, draughts, floods etc. These risks are evaluated with support of our Corporate Risk Manager and reported to Sabancı Holding and Akçansa Board of Directors. An example of an acute physical risk would be lack of water from wells (happened in Ladik plant in 2015), flooding of our plant because of a very high rainfall (happened in Büyükçekmece Plant in 2016) which caused disruption in production and damage to the plant. Additionally, we purchase coal/petcoke from other countries, export cement/clinker to various countries by shipment and in case of a storm the shipments/supplies would be disrupted and may lead to potential disruption of operation. Such conditions also effect local supplies and sales also. In order to manage the impact of these sorts of risks, Akçansa obtains insurance all its facilities against various risks including extreme weather events related risks.</p>
Chronic physical	Relevant, always included	<p>Akçansa takes climate-related chronic physical risks very seriously since these can have a long-term impact on its business. Therefore, this category is deemed relevant and is always included in our risk assessment. An example for a chronic climate physical risk can be the expected rise in sea levels. Akçansa's Çanakkale Plant, being the biggest production plant amongst the 3, is located by the sea. Therefore, a rise in sea level may result in temporary production</p>

		disruption over the mid-term or a relocation need for the plant over the long-term. and manages it with support of Corporate Risk Manager and reports to Sabancı Holding and Akçansa Board of Directors.
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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 & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Paris Climate Agreement will bring limitations on carbon emissions to cement business based on Turkey's INDCs - Intended Nationally Determined Contributions. Turkish Ministry of Environment and Urbanization has been performing a project namely Partnership for Market Readiness (PMR) to evaluate which market-based carbon pricing system would be the best for Turkey. So far ETS (emission trading scheme) is

the most likely pricing mechanism to be adopted. It is not defined yet if free allowances would be given or what would be the price level for carbon; however, in any case a carbon pricing process will get initiated in the short-term which will lead to additional operating cost burden to Akçansa mainly as a result of CO2 emission arising from its 3 production plants, namely Büyükçekmece (BCM), Çanakkale (CNK) and Samsun-Ladik (LDK). The magnitude of this risk would mainly depend on the market price for allowances, the volume of free allocation and our cement production volume.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

268,463

Potential financial impact figure – maximum (currency)

805,389

Explanation of financial impact figure

Since there is no carbon pricing system in place yet in Turkey, only offsetting in Voluntary carbon markets is possible. In calculation of above potential impact figure, we took ETS cap for EU countries 766 kg CO2 ton/clinker as reference value.

Year 2020 gross specific CO2 emission of our 3 plants is 846 kg CO2 ton/clinker. According to our 2020 CO2 emission values;

The difference between our actual emission and cap values is 80 kg CO2/ton clinker.

Year 2020 total clinker production at our 3 plants (Büyükçekmece, Çanakkale and Ladik) is 6,711,570- Tons.
The excess specific CO2 emission is 536,926 tons.

This amount will undergo for a carbon cost to Company. In calculation, unit carbon price we used is from voluntary emission reduction (VER) prices of the projects developed in Turkey which is in the range of 0.5 – 1.5 Euro/ ton CO2 (from www.markit.com).
31.12.2020 Euro/TL exchange rate was taken as 9.13 TL from the Central Bank of Turkey).

Cost of response to risk

5,024,532

Description of response and explanation of cost calculation

In order to manage this risk akçansa implements a wide range of initiatives. a) we continuously conduct R&D studies to lower the CO2 content of our product and develop low-carbon products (2020 total budget: approx . TL 823,000), b) we implement emission reduction initiatives including increasing alternative fuel consumption with lower CO2 emission and equipment replacement to enable energy consumption reduction (2020 total investment cost: 4,201,532), c) We have conducted an EPD self declaration project using Global Cement and Concrete Association (GCCA) tool for 2 groups of concrete to better understand and accordingly manage where in the life cycle CO2 emissions arise and where we can focus to lower these emissions (no investment cost).

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Acute Physical climate-related events have already increased in frequency and severity in regions Akçansa operates. Climate projections indicate these acute extreme weather events will considerably increase in frequency as well as severity. The main risks arising from this risk for Akçansa covers all our facilities from quarries, production plants, terminals/ports, ready-mixed concrete and aggregates facilities and may result in temporary-long term production/operation disruption, potential physical damage to facilities and physical assets. In such a case, we may be faced with a potential revenue loss due to disruption to production and resulting in lower production output.

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)

1,967,108

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

While estimating the potential financial impact related to this risk, we based our calculations on the assumption of 0.1% loss based on our 2020 revenue. Our 2020 revenue was TL 1,967,108,077.

Cost of response to risk

5,000,000

Description of response and explanation of cost calculation

As part of our efforts to manage this risk, the primary action we implement is to obtain insurance for all our facilities. Since the exact total 2020 insurance (premium) cost is considered as a confidential cost, we give the average of a range covering our environment & climate-related insurance (premium) cost: TL 2.5 to 7.5 million and disclose the average of this range as an indicative cost as TL 5 mio.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Rising sea levels

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

As per the climate projections, there is an expected sea level rise resulting due to climate change. According to Nasa's earth observatory projections, depending on the measures taken (from net zero pathway to high emission Business as Usual pathway) the sea levels are projected to rise from 1 to 4 meters. As Akçansa's Çanakkale (CNK) plant is located by the sea, this projected sea level rise can cause

temporary or potentially long-term disruption or need to relocate the plant. Even though this is a long-term projection, it can still pose a risk to temporary production/operation disruption at the CNK plant due to significant physical damage.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

24,900,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

While estimating the potential financial impact associated with this risk, we included the cost related to damages to the production line which also leads to the stoppage of the kiln potentially for a month. The figure represents the potential cost of damage plus loss of revenue with regards to this risk. Since the breakdown of this financial figure is confidential, we cannot disclose.

Cost of response to risk

5,000,000

Description of response and explanation of cost calculation

The management of these risks is integrated into our corporate risk management processes. The cost of response to this risk mainly consists of our environment & climate-change related insurance (premium) cost to remedy such physical damage to CNK Plant and indirect losses related to this. Since the facility specific insurance cost is considered as confidential, we give an estimated average of a range of our total company-wide environment & climate-related insurance (premium) cost. The indicative range is between TL 2.5 to 7.5 mio and therefore the average of this range can be given as TL 5 mio.

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of recycling

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

As a carbon intensive sector, cement companies, if they act proactively and reduce their emissions, they can benefit from reducing their indirect operating costs. Through the low carbon future, the promising potential ahead of cement industry is the use of alternative fuels, maximizing biomass (such as sewage sludge) in fuel mix to reduce CO2 emissions. Rate of alternative fuel usage Turkish cement industry is around 8.0% which needs to be increased. Akçansa's realized alternative fuel usage rate was xx in 2020. Therefore, accelerating the alternative fuel rate in fuel mix can create a competitive advantage as a result of reduced energy costs.

Time horizon

Medium-term

Likelihood

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)

12,400,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact figure represents the actual 2020 annual monetary savings resulted from the increased usage of alternative fuels instead of relatively expensive and high emission bearing conventional fuels such as petcoke and coal.

Cost to realize opportunity

4,201,532

Strategy to realize opportunity and explanation of cost calculation

Our strategy to realize this opportunity consists of 2020 CAPEX investment cost for increasing alternative fuel usage rate in Büyükçekmece Plant. The cost given in “Cost to realize opportunity” figure is the total CAPEX for these 2 projects.

Comment

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

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Our production activities depend on the continuous raw material supply from our quarries. Upstream transportation is conducted mainly via trucks and based on the locations of these quarries, the trucks need to use routes consisting very rough roads. If managed effectively by optimizing the routes and maintaining the roads, the diesel consumption of these vehicles can be reduced, resulting in reduction of CO2 emissions and indirect operating costs.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The potential financial impact arising from this opportunity is the operating cost reduction to be achieved by optimizing the diesel consumption of vehicles via optimization measures.

Cost to realize opportunity

1,000,000

Strategy to realize opportunity and explanation of cost calculation

The strategy to realize this opportunity in the reporting period consists of the road optimization measures implemented such as patchwork and additional road construction near Çanakkale Plant. The cost to realize this opportunity figure represents the total amount of road maintenance investment cost in 2020.

Comment

Identifier

Opp3

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

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Most of the cement sector related CO₂ emissions arise from clinker production which is one of the main raw materials for cement. However, by using alternative raw materials and development of cementitious products (with lower clinker ratio) not only we can achieve low carbon product transition, but also provide value-added products to our customers. Therefore, dedicating a workforce and a budget for development and or expansion of low emission goods and services via R&D will enable Akçansa to sell more products and potentially to even wider markets with higher awareness regarding climate change and therefore demanding low carbon products. This opportunity will embark itself as increased revenues resulting from increased demand for Akçansa's low carbon products.

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)

19,671,080

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

This opportunity has a potential to have high financial impact over the long term. We have not yet conducted a detailed market research to quantify this impact and therefore while estimating the potential financial impact related to this opportunity, we based our calculations on the assumption of a 1% revenue increase due to increased demand to our low carbon products. Our 2020 revenue was TL 1,967,108,077.

Cost to realize opportunity

823,000

Strategy to realize opportunity and explanation of cost calculation

Strategy to realize this opportunity is implemented via continuous R&D studies. We have an R&D centre located near our Büyükçekmece Plant which will extend its operations in 2021. Cost associated with realizing this opportunity is the total low carbon & sustainable product related R&D budget realized in 2020.

Comment

C3. Business Strategy

C3.1

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

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

C3.1a

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

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	

C3.2

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

Yes, qualitative and quantitative

C3.2a

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

Climate-related scenarios and models applied	Details

<p>2DS Nationally determined contributions (NDCs)</p>	<p>Paris Agreement has increased the discussion around the need for more stringent carbon emission reduction targets/measures. Since Turkey has signed but not yet ratified the Paris Agreement, it currently has an Intended NDC (INDC) submitted to the UNFCCC which states a scenario to reduce its greenhouse gas reduction, including land use, land use change and forestry (LULUCF), up to 21% below business as usual in 2030. Today there is no carbon pricing system enacted in Turkey, but it will be in place within short-term most likely in the form of an ETS. Considering these developments, we have conducted a scenario analysis via 2 approaches. 1) We took Turkey's INDC scenario as reference and calculated our emission pathway covering up until 2030 considering 3 production plants (causing the great majority of our Scope 1 and 2 emissions), 2) As a Company whose main shareholders are Sabancı Holding and HeidelbergCement. Heidelberg Cement is a global player in cement business and is a member of WBCSD-Cement Sustainability Initiative, Akçansa is a part of HeidelbergCement's recently updated Cement Low-carbon Technology Roadmap. which conducts scenario analyses against the reference technology scenario (RTS), or nationally determined contributions (NDCs) and the 2DS for the entire industry globally. It has been conducted by the International Energy Agency (IEA) and WBCSD-CSI (now: GCCA), with HeidelbergCement being actively involved and part of the working group. It outlines those scenarios until 2050. Moreover, Sabancı Holding has also intensified its climate-related scenario analysis and develops a 2050 roadmap. In line with these developments on the main shareholders side, Akçansa takes 2DS scenario and to start with established its 2020-2030 emission reduction roadmap detailing year-on-year emission reduction targets, according to which Akçansa will reduce its carbon emissions per net Kg of CO₂ per metric tons of Cementitious Product by 15.7% until 2030 from 2019 levels. The analysis and the roadmap identifies on a plant-by-plant level measures, which emission reduction levers such as alternative fuels/fuel switch, energy efficiency and reduction of clinker factor. We considered all plants as part of these scenario analysis. This roadmap has enabled our business objectives and strategy and the resulting investment decisions made, for the reporting year, to increase Alternative fuel usage rate at our Büyükçekmece plant to start with.</p>
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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	Turkey is preparing itself for a carbon pricing mechanism in the short-term. This will bring industries for further needs to adapt themselves for a low carbon future. One opportunity for cement business is the

		<p>transition to low clinker products or in other words, there is a risk in not doing so as 70% of carbon emissions result from production of clinker (60% from decarbonization of limestone and 40% from fuels). In case you produce your product with less amount of clinker through use of more mineral additives the result would be decrease of carbon emissions directly. Additionally, the product mix, as much as the market demand allows, will include more blended cement composed of less clinker and more mineral and secondary material additives like slag from steel industry. We target to decrease our clinker use in cement and cement that will be the sustainability target for 2030 and in order to do so, our strategy is to focus on R&D of low carbon products. We are in the process of using EU or other applicable reference Taxonomies to define our sustainable product portfolio which also includes low-carbon products. Moreover, the most strategic decision made in the reporting year was to self declare EPD (Environmental Product Declaration) for 2 concrete products and we became the first company in turkey to do so for ready concrete product.</p>
Supply chain and/or value chain	Yes	<p>In line with our 2030 roadmap and the ambition to maximize our alternative fuel as well as alternative raw materials with the primary focus to reduce our CO2 emissions, we are dependent on the suppliers to provide these alternative sources, be it end-of-life tires or DSS. Therefore our strategy is to diversify our suppliers and try and procure these alternative sources in full (and in the future increased) capacity. We take a number of measures to do so, one of the recent ones being the decision to use waste oil in Büyükçekmece Plant and conducting the necessary action plan, including supplier planning.</p>
Investment in R&D	Yes	<p>As part of our low carbon roadmap and 2030 sustainability targets we aim to continuously reduce the clinker ratio in our products via cementitious products as well as value-added products with lower carbon footprint or with higher lifetime or enhanced performance parameters to enable lowering the emissions arising during use phase. In order to do so, our strategic focus is to conduct continuous R&D projects with dedicated annual budgets to achieve our targets.</p>
Operations	Yes	<p>One of the main climate-related risks arising from our operations is the resulting CO2 emissions. In line with our our low carbon strategy covering 2020-2030 period, we target to use more alternative fuels and biomass in our fuel mix to substitute fossil fuels. - We also aim to increase our energy efficiency and to decrease specific heat consumption at rotary kilns. All these measures taken in operations to decrease carbon emissions. Our strategy is to dedicate a budget for increased use of alternative fuels as well as</p>

		investing in energy efficient measures. His strategic approach influenced the business decision made to increase alternative fuel usage capacity at Büyükçekmece plant in the reporting period.
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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 Access to capital	From capital expenditure point of view; We need to be prepared for the low carbon future proactively. Hence we invest from today to burn more alternative fuels and biomass in rotary kilns and dedicate a CAPEX budget accordingly. Over the recent years we have invested for appropriate storing, handling, conveying and feeding systems for dried sewage sludge (DSS), waste oil, shredded tires (TDF) and refused drive fuels (RDF). From revenues point of view; utilizing more alternative fuels lowers costs and therefore brings cost advantage to company, leading to increase in revenues. From direct costs point of view; utilizing more alternative fuels which substitute conventional fossil fuels like coal and petcoke leads to a decrease in the direct costs. From capital allocation point of view; utilizing more alternative fuels rather than conventional fossil fuels like coal and petcoke helps to maintain better capital allocation due to improvement in the cash flow. From indirect costs point of view; by using alternative fuels at lower costs in comparison to the conventional fossil fuels, we decrease our indirect operating costs. From access to capital point of view; awareness in the climate-related risks and opportunities brings advantage to company in finding low interest rate capital and financial support from government or from alternative funds for enabling such projects to drive carbon emission reduction. These financial aspects are evaluated with 3-year company-wide strategic plan together with 5 and 10-year Master Plans to take necessary actions to manage the financial impacts arising from climate-related risks and opportunities.

C3.4a

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

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

Year target was set

2010

Target coverage

Business activity

Scope(s) (or Scope 3 category)

Scope 1

Intensity metric

Other, please specify

Kg of CO2 per metric tons of clinker

Base year

2010

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

886.37

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

100

Target year

2020

Targeted reduction from base year (%)

6.35

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

830.085505

% change anticipated in absolute Scope 1+2 emissions

5.9

% change anticipated in absolute Scope 3 emissions

0

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

846

% of target achieved [auto-calculated]

71.72490399

Target status in reporting year

Expired

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

One of our 2020 Sustainability Commitments is the Specific CO₂ emissions (830 kg CO₂/ton clinker). We had put target in year 2010 when we first introduced company-wise sustainability targets including climate-related targets. In year 2010 when we introduced our specific CO₂ target in clinker production the value was 886.37 kg CO₂/ton of clinker (gross).

On the way through a low carbon future we continuously work to decrease our CO₂ emissions, thus we attempt to improve our performance on increasing the alternative fuels and biomass rate in fuel mix (instead of using fossil fuels), decrease energy consumption i.e. improve our energy efficiency and decrease specific heat consumption in rotary kilns to use less fuel all to contribute to mitigate our CO₂ emissions.

In year 2019 the KPI becomes 833.67 meaning improvement 5.9% compared to year 2010.

But; due to clinker production increase; 2020 specific gross CO₂ value was 846 kg CO₂ / Ton Clinker.

However our Net specific CO₂ value is 812 kg CO₂/Ton Clinker in 2020.

Target reference number

Int 1

Year target was set

2020

Target coverage

Business activity

Scope(s) (or Scope 3 category)

Scope 1

Intensity metric

Other, please specify

NET Kg of CO₂ per metric tons of Cementitious Product

Base year

2019

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

770

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

100

Target year

2030

Targeted reduction from base year (%)

15.71

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

649.033

% change anticipated in absolute Scope 1+2 emissions

4

% change anticipated in absolute Scope 3 emissions

0

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

753

% of target achieved [auto-calculated]

14.0534195276

Target status in reporting year

New

Is this a science-based target?

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

Target ambition

Please explain (including target coverage)

In 2020, targets of 2030 has taken place as NET Kg of CO2 per metric tons of Cementitious Product.

2030 Ambition is to reduce NET kg CO2 emitted by approx. 15.7% and to reach 649 kg CO2/Cementitious Products

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

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

2010

Target coverage

Business activity

Target type: absolute or intensity

Absolute

Target type: energy carrier

Other, please specify

Alternative fuels

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2010

Figure or percentage in base year

3.97

Target year

2020

Figure or percentage in target year

29

Figure or percentage in reporting year

17.6

% of target achieved [auto-calculated]

54.4546544147

Target status in reporting year

Expired

Is this target part of an emissions target?

yes

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

As one of the effective ways in mitigating CO2 emissions in low carbon pathway we intend to increase alternative fuels to substitute conventional fossil fuels.

In this respect we invest to handle and feed more dried sewage sludge, shredded tires, waste oil and refused derive fuels in rotary kilns.

In year 2010 when we set this target the utilization of AF in fuel mix was only around 4%. and we set an ambitious target (29%) as one of 2020 sustainability targets.

In years we changed significantly our fuel mix and substituted coal and petcoke with alternative fuels. We will continue to invest to increase AF rate in fuel mix. New target for 2030 is 35%

Target reference number

Low 2

Year target was set

2010

Target coverage

Business activity

Target type: absolute or intensity

Absolute

Target type: energy carrier

Other, please specify

biomass utilization rate as alternative fuel

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2010

Figure or percentage in base year

1.2

Target year

2020

Figure or percentage in target year

6.33

Figure or percentage in reporting year

6.51

% of target achieved [auto-calculated]

103.5087719298

Target status in reporting year

Achieved

Is this target part of an emissions target?

yes

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

As one of the effective ways in mitigating CO2 emissions in low carbon pathway we intend to increase biomass to substitute conventional fossil fuels.

In this respect we invest to handle and feed more dried sewage sludge (100% biomass), tire derived fuel (27% biomass) and refuse derived fuel (40,6% biomass according to analysis results) in rotary kilns.

In year 2010 when we set this target the utilization of biomass in fuel mix was only 1.2%. and we set an ambitious target (6.33%) as one of 2020 sustainability targets.

The target is reached as 6,51%

We will continue to invest to increase biomass rate in fuel mix. in the parallel of AF Target. New biomass target for 2030 is 12,3%.

Target reference number

Low 1

Year target was set

2020

Target coverage

Business activity

Target type: absolute or intensity

Absolute

Target type: energy carrier

Other, please specify

Alternatif Fuel rate

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2019

Figure or percentage in base year

14.1

Target year

2030

Figure or percentage in target year

35

Figure or percentage in reporting year

17.6

% of target achieved [auto-calculated]

16.7464114833

Target status in reporting year

New

Is this target part of an emissions target?

Yes

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Akçansa Kiln's alternative fuel utilization rate, prepared for 2030 CO₂ & AF Road map studies completed in reporting year.

Target reference number

Low 2

Year target was set

2020

Target coverage

Business activity

Target type: absolute or intensity

Absolute

Target type: energy carrier

Other, please specify

Biomass utilization rate %

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2019

Figure or percentage in base year

5.6

Target year

2030

Figure or percentage in target year

12.3

Figure or percentage in reporting year

6.7

% of target achieved [auto-calculated]

16.4179104478

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

Akçansa Kiln's biomass utilization rate under AF % target, prepared for 2030 CO2 & AF Road map studies completed in reporting year.

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	2	
To be implemented*	0	0
Implementation commenced*	0	0

Implemented*	5	61,944
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy consumption

Other, please specify

Increasing AF rate

Estimated annual CO2e savings (metric tonnes CO2e)

57,344

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

2,200,000

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

1,681,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Projects that were completed for both Kiln 1 & Kiln2 to improve AF feedings in Büyükçekmece Plant.

Kiln 1 has the capacity to produce 443,875 Tons Clinker in a year. Kiln 2 has the capacity to produce 954,750 Tons Clinker.

With the improvements average of 41 kgCO2 reduction is calculated per ton of clinker, which means 18,199 Ton CO2 for Kiln 1 and 39,145 Tons CO2 for Kiln 2.

Initiative category & Initiative type

Energy efficiency in production processes

Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)

4,600

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

4,535,480

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

2,520,532

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

Locations based improvements that supports energy efficiency.

BCM plant: Kiln 2. Calcliner Tower ID Fani 1,406,804 TL

CNK plant: Kiln 2. ID Fan replacement 626,690 TL

CNK plant: Kiln 1 main driver reducer 487,038 TL

Saving is calculated the difference between plan vs actual kwh consumptions. Difference is multiplied by the emission factor.

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	As a solution to mitigate CO2 emissions, developing low-carbon products which constitutes less clinker in cement with more mineral or secondary additives (such as blast furnace slag) is critical. Hence, our R&D works continue both for sustainable products and alternative cementitious products. We keep doing synergic and coordinative works with Sabancı University to develop low carbon alternative cementitious products.
Employee engagement	Operational excellence is very much critical in reaching operational targets of a company. To mitigate CO2 emissions increasing alternative fuel and biomass rate and increase energy efficiency are two critical issues. These targets are achieved with the engagement of employee since it is very critical to monitor the process conditions. Alternative fuels and biomass input to the rotary kiln change the process parameters which needs special care and actions in case of fluctuations. Therefore, it is a key issue to train employee and increase their awareness to mitigate CO2, assign them technical KPIs and give award when targets are achieved.

Dedicated budget for other emissions reduction activities	Implementing ISO standards is another method we use. Akçansa plants takes benefit of having both ISO 14001 Environmental Management Standard and ISO 50001 Energy Management Standard. The former includes monitoring, controlling and calculating CO2 emissions taking measures to mitigate it through alternative fuels and biomass. The latter, on the other hand, includes monitoring, controlling energy consumptions, energy base lines, critical energy consuming units etc. It requires regular check, taking required measures etc. So implementing and effective management of standards are very much supportive to mitigate CO2 emissions.
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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

We consider R&D works is one of the key issues to mitigate CO2 emissions through low carbon products and alternative sustainable cementitious products. Akçansa R&D works to develop two low carbon products namely, A+Betón and Yeşilşap both are used in green building projects as Green Concrete. Both products are composed of low rate of clinker in cement compared to conventional CEM-1 type high 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

The EU Taxonomy for environmentally sustainable economic activities

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

12.35

Comment

Due to decrease in green building projects the demand for both products was poor in 2019 so they did not lead to a considerable revenue to company.

A+Beton is a durable and high performing concrete product with a significantly reduced CO2 emission value due to 70% of blast furnace slag in its composition. It is developed for environmentally friendly green buildings.

Yeşilşap, an environmentally friendly and light ready screed product, reduces CO2 emission up to 35% through special additive blend cements used in its production process. Due to special chemical additives used in its composition, 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	65

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)

5,872,720

Comment

Emissions from our clinker and cement production. Major sources are calcination of limestone and use of fuels for combustion.

Scope 2 (location-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

338,163

Comment

We consume electricity from the interconnected grid. Scope-2 emissions were calculated from our clinker and cement production. Reference factor is from IEA.

Scope 2 (market-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

0

Comment

Akçansa consumes electricity from interconnected grid.

C5.2

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

IEA CO2 Emissions from Fuel Combustion

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

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)

5,680,999

Comment

2020 Total Gross ton CO2

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

Akçansa consumes electricity from interconnected grid.

C6.3

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

Reporting year

Scope 2, location-based

262,191

Comment

2020 Total tCO₂ as Scope 2, including all operations; Cement, Aggregate, Ready-Mix, Ports-Terminals and Headquarters.

C6.4

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

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Please explain

Emissions from Purchased goods and services to be calculated in following years.

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

Emissions from Purchased goods and services to be calculated in following years.

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

Evaluation status

Relevant, not yet calculated

Please explain

Emissions from fuel and energy related activities to be calculated in following years.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

115,703

Emissions calculation methodology

The calculation of the CO2 amount is done via factor on the ton-kilometres. Road - 0.168000 kg CO2 eq./tkm; Rail - 0.058400 kg CO2 eq./tkm; Water (inland) - 0.044500 kg CO2 eq./tkm; Water (sea) - 0.019579 kg CO2 eq./tkm. The GHG Protocol transportation tool was used. the activity data (tkm) was obtained from our suppliers.

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

100

Please explain

This data includes raw materials extraction and transportation from own quarries, transportation of purchased coal, alternative fuels all for our 3 cement plants and raw materials purchase for all ready mixed concrete plants

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Please explain

Emissions arising from waste generated as part of our operations to be calculated in the next reporting period.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

931.8

Emissions calculation methodology

Mobile Combustion GHG Emissions Calculation Tool Version 2.6 of the GHG Protocol was used. The activity data was obtained from our service provider.

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

100

Please explain

Domestic & International Flights & car rentals during business travels are included in this category of emissions.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,887.5

Emissions calculation methodology

Mobile Combustion GHG Emissions Calculation Tool Version 2.6 of the GHG Protocol was used to calculate the emissions arising under this category. The activity data was obtained from our shuttle service provider.

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

100

Please explain

Employee shuttle related emissions are included under this category.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We dont have upsream leased assets

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

59,909

Emissions calculation methodology

The calculation of the CO2 amount is done via factor on the ton-kilometres. Road - 0.168000 kg CO2 eq./tkm; Rail - 0.058400 kg CO2 eq./tkm; Water (inland) - 0.044500 kg CO2 eq./tkm; Water (sea) - 0.019579 kg CO2 eq./tkm. The GHG Protocol transportation tool was used. the activity data (tkm) was obtained from our suppliers.

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

100

Please explain

Data includes downstream logistics related emissions arising as a result of sales of clinker, cement, ready-mixed concrete and aggregate products.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

No processing of sold products.

Use of sold products

Evaluation status

Relevant, not yet calculated

Please explain

We do not calculate emissions of use of sold products yet due to need for access to comprehensive data request from our value chain. The quality of available data is not sufficient for us to make this calculation.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Please explain

We do not calculate CO2 emissions of end of life treatment of sold products. The quality of available data is not sufficient for us to make this calculation.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

No downstream leased assets.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

akçansa does not have any franchises.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

No additional investments made during the reporting period to be evaluated under Scope 3 category.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are no other upstream scope 3 emissions source identified within our boundary.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are no other downstream scope 3 emissions source identified within our boundary.

C6.7

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

Yes

C6.7a

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

CO2 emissions from biogenic carbon (metric tons CO2)	Comment
--	---------

Row 1	140,412	Total CO2 by combustion of biomass sources; BCM plant: 78,576 TonCO2 CNK plant: 48,537 Ton CO2 LDK plant: 13,299 Ton CO2
-------	---------	---

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

0.0030213

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

5,943,190

Metric denominator

unit total revenue

Metric denominator: Unit total

1,967,108,077

Scope 2 figure used

Location-based

% change from previous year

8.8

Direction of change

Decreased

Reason for change

Increase of total revenue and decrease for Scope1+Scope2 emissions considering 2019.

Gross global combined Scope 1 and scope 2 difference between 2020 and 2019 is 1% while Total revenue has changed 7,7%.

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	0.846	0.812	0.0391
Cement equivalent	0.756	0.726	0.0349
Cementitious products	0.784	0.753	0.0362
Low-CO2 materials	6.15	5.9	0.28

C7. Emissions breakdowns

C7.1

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

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Turkey	5,680,999

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
Büyüçekmece Plant	1,648,380	41.0118	28.3327
Çanakkale Plant	3,522,790	39.5156	26.1439
Ladik Plant	509,829	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	5,680,999	5,451,210	Gross = Conventional Fuel + Alternative Fuel - Net = Conventional Fuel

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Turkey	262,191	0	580,969	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 (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Büyükçekmece Plant	91,377	0
Çanakkale Plant	131,149	0
Ladik Plant	35,618	0
Ready-mixed concrete and Aggregates	1,073	0
Terminals/Ports	1,191	0
Head-office	42	0

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 CO ₂ e	Scope 2, market-based (if applicable), metric tons CO ₂ e	Comment
Cement production activities	258,144	0	Büyükçekmece, Çanakkale and Ladik Cement Plants total.

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 CO ₂ e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	492	Decreased	0	2019 renewable energy consumption is 93.429 MWh; while 2020 is 94.519 MWh; change is 1090 MWh. Change in emissions represent 0.000083% of our Scope 1 and 2 emissions total.
Other emissions reduction activities	61,944	Decreased	1	Increased AF Usage with consideration of Biomass content. Change in emissions represent 1% of our Scope 1 and 2 emissions total.

Divestment	0	No change	0	Not related
Acquisitions	0	No change	0	Not related
Mergers	0	No change	0	Not related
Change in output	0	No change	0	Not related
Change in methodology	37,583	Decreased	0.6	In the reporting period, we have calculated our Scope 1 and 2 GHG emissions based on the CSI (Cement Sustainability Initiative) method is used. In the previous reporting period we used the Turkish MRV regulation framework to calculate our Scope 1 emissions and then added our Scope 2 emissions calculated based on CSI methodology. In order to drive consistency in our disclosures, in 2020 we based both our Scope 1 & Scope 2 emissions calculation on the same methodology (CSI). In addition to this, due to the nature of our operations and regulatory requirements, we must calculate our fuel based emission factor per certain mass of fuel (petcoke, coal, Alternative fuels) delivered to our sites. then the weighted average annual emission factor is calculated as part of our annual Scope 1 calculations. This brings a certain change in emission factor on a yearly basis. therefore, the% of emissions change with regards to change in methodology results from a combination of these 2 factors.
Change in boundary	0	No change	0	Not related
Change in physical operating conditions	0	No change	0	Not related
Unidentified	0	No change	0	Not related
Other	0	No change	0	Not related

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 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)	0	6,769,717	6,769,717
Consumption of purchased or acquired electricity		87,542	580,876	668,418
Consumption of self-generated non-fuel renewable energy		6,977		6,977
Total energy consumption		94,519	7,350,593	7,445,112

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)	6,769,717
Consumption of purchased or acquired electricity		668,418
Total energy consumption		7,438,135

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No

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

C8.2c

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

Fuels (excluding feedstocks)

Petroleum Coke

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,561,795

Emission factor

90.5

Unit

metric tons CO2 per GJ

Emissions factor source

Own Laboratory Results.

Comment

Every locations are using own laboratory results, thus given Emission factors are weighted averages.

BCM: 90,2

CNK: 90,5

LDK: 93,0

Fuels (excluding feedstocks)

Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

278,748

Emission factor

93.6

Unit

metric tons CO2 per GJ

Emissions factor source

Own Laboratory Results.

Comment

Every locations are using own laboratory results, thus given Emission factors are weighted averages.

BCM: 92,5

CNK: 95,6

LDK: 96,3

Fuels (excluding feedstocks)

Lignite Coal

Heating value

LHV (lower heating value)



Total fuel MWh consumed by the organization

723,184

Emission factor

90.8

Unit

metric tons CO2 per GJ

Emissions factor source

Own Laboratory Results.

Comment

Every locations are using own laboratory results, thus given Emission factors are weighted averages.

BCM: 92,5

CNK: 87,9

LDK: 91,0

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,871

Emission factor

56.1

Unit

metric tons CO2 per GJ

Emissions factor source

WBCSD Cement Sustainability Initiative (CSI) Cement CO2 and Energy Protocol Version 3.1

Comment

Used standard value

Fuels (excluding feedstocks)

Fuel Oil Number 1

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

10,556

Emission factor

77.4

Unit

metric tons CO2 per GJ

Emissions factor source

WBCSD Cement Sustainability Initiative (CSI) Cement CO2 and Energy Protocol Version 3.1

Comment

Used standard value

Fuels (excluding feedstocks)

Waste Oils

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

103,998

Emission factor

65

Unit

metric tons CO2 per GJ

Emissions factor source

WBCSD Cement Sustainability Initiative (CSI) Cement CO2 and Energy Protocol Version 3.1,
For CNK and LDK
Own Laboratory Results used for BCM plant since it's big source in that location.

Comment

Given Emission factors are weighted averages.

BCM: 64,9

CNK: 74

LDK: 74

Fuels (excluding feedstocks)

Waste Tires

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

621,716

Emission factor

86.7

Unit

metric tons CO2 per GJ

Emissions factor source

Every locations are using own laboratory results, thus given Emission factors are weighted averages.

Comment

BCM: 86,9

CNK: 86,8

LDK: 86,2

Fuels (excluding feedstocks)

Alternative Kiln Fuel (Wastes)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

37,814

Emission factor

95

Unit

metric tons CO2 per GJ

Emissions factor source

For Big sources according to MRV; Emission factors are calculated regarding Own Laboratory Results.

Comment

RDF+SRF species are used in BCM plant.

Fuels (excluding feedstocks)

Dried Sewage Sludge

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

174,159

Emission factor

94.6

Unit

metric tons CO2 per GJ

Emissions factor source

For Big sources according to MRV; Emission factors are calculated regarding Own Laboratory Results.

Comment

DSS used only in BCM plant

Fuels (excluding feedstocks)

Solid Biomass Waste

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

252,876

Emission factor

110

Unit

metric tons CO2 per GJ

Emissions factor source

own laboratory analysis

Comment

Biomass partition of total Alternative fuels

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 Products

Heating value

LHV

Total MWh fuel consumed for cement production activities

4,561,795

MWh fuel consumed at the kiln

4,561,795

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

0

Fuels (excluding feedstocks)

Coal

Heating value

LHV

Total MWh fuel consumed for cement production activities

278,748

MWh fuel consumed at the kiln

278,748

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

0

Fuels (excluding feedstocks)

Lignite Coal

Heating value

LHV

Total MWh fuel consumed for cement production activities

723,184

MWh fuel consumed at the kiln

723,184

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

0

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV

Total MWh fuel consumed for cement production activities

4,871

MWh fuel consumed at the kiln

4,871

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

0

Fuels (excluding feedstocks)

Fuel Oil Number 1

Heating value

LHV

Total MWh fuel consumed for cement production activities

10,556

MWh fuel consumed at the kiln

10,556

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

0

Fuels (excluding feedstocks)

Waste Oils

Heating value

LHV

Total MWh fuel consumed for cement production activities

103,998

MWh fuel consumed at the kiln

103,998

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

0

Fuels (excluding feedstocks)

Waste Tires

Heating value

LHV

Total MWh fuel consumed for cement production activities

621,716

MWh fuel consumed at the kiln

621,716

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

0

Fuels (excluding feedstocks)

Alternative Kiln Fuel (Wastes)

Heating value

LHV

Total MWh fuel consumed for cement production activities

37,814

MWh fuel consumed at the kiln

37,814

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

0

Fuels (excluding feedstocks)

Dried Sewage Sludge

Heating value

LHV

Total MWh fuel consumed for cement production activities

174,159

MWh fuel consumed at the kiln

174,159

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

0

Fuels (excluding feedstocks)

Solid Biomass Waste

Heating value

LHV

Total MWh fuel consumed for cement production activities

252,876

MWh fuel consumed at the kiln

252,876

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

0

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	94,519	94,519	94,519	94,519
Heat	6,969,717	6,969,717	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-CE8.2d

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

	Total gross generation (MWh) inside the cement sector boundary	Generation that is consumed (MWh) inside the cement sector boundary
Electricity	94,519	94,519
Heat	6,969,717	6,969,717
Steam	0	0

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

218,090

Metric numerator

Ton - 2020 Waste Amount used as Alternative Fuel

Metric denominator (intensity metric only)

unit total revenue; 0,111 kg Waste/ Total Revenue

% change from previous year

16

Direction of change

Increased

Please explain

On Dry Basis;

BCM 116.056 Tons of Waste

CNK 79.889 Tons of Waste

LDK 22.145 Tons of Waste

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	

C-CE9.6a

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

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Low clinker cement	Applied research and development	81 - 100%	823,208	All R&D studies are done to decrease clinker ration in our products.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 Akçansa Limited Assurance Report_2020_ENG.pdf

Page/ section reference

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Relevant standard

ISAE 3410

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

Limited assurance

Attach the statement

 Akçansa Limited Assurance Report_2020_ENG.pdf

Page/ section reference

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Relevant standard

ISAE 3410

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: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 Akçansa Limited Assurance Report_2020_ENG.pdf

Page/section reference

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Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 Akçansa Limited Assurance Report_2020_ENG.pdf

Page/section reference

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Relevant standard

ISAE 3410

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?

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 you are regulated by or anticipate being regulated by?

In order to comply with the regulation we anticipate being regulated by, we proactively take measures to lower our carbon emissions. As we outline in our 2030 Sustainability Roadmap, as well as in our strategy and vision, we are currently working towards low carbon production by ensuring the implementation of energy efficiency measures, increasing the use of alternative raw materials with lower carbon emissions during production phase, decreasing specific heat consumption at the rotary kilns and increasing alternative fuel including biomass ratio in our energy mix over the next 10 years. For the longer future, the cement industry intensively works in possible deployment of Carbon Capture and Storage technology. We closely follow the R&D conducted in this area and if/when possible we can include it in our long-term Master plans in the future in order to secure our compliance with the anticipated regulation on carbon pricing/ETS.

In addition to our efforts to lower emissions as part of our direct operations, we also actively participate in 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 the carbon emissions.

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, 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, 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

5

% total procurement spend (direct and indirect)

10

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

0

Rationale for the coverage of your engagement

Suppliers mean business-partners for Akçansa. Hence, we do care about their awareness on climate-related issues that can impact their businesses. We aim to help increasing our suppliers' awareness levels via numerous measures. Our subcontractor auction criteria for logistics services, for instance, includes environmental performance from which we expect low-emission vehicles (model and age criteria) should be selected for the work. We do regularly provide our subcontractors sustainability trainings and aim to increase their awareness and interest on climate-related issues and help them consider adapting low-carbon transition plans.

Impact of engagement, including measures of success

We received positive feedback from all suppliers we engaged to. Some of them have started to implement projects to decrease their diesel-oil use in logistics through various precautions and actions. Some took actions to decrease their energy consumptions. We consider these outcomes a successful implementation of the supplier engagement.

Comment

C12.1d

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

Akçansa values climate-related engagement across its value chain. Akçansa is closely working with universities (ITU, Sabancı University) and R&D institute TUBITAK to create and 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 actively involved in working groups and projects of the following NGOs 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 provide opinions in the regulatory changes, lobbying activities with relevant authorizes in order to new develop projects and involve in existing 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 to develop a network at which companies will be in contact with other to find ways to use one company's waste as another company's raw material while contributing to the “circular economy” model in Turkey. There is a cloud-based platform and traditional and non-traditional industrial waste streams are matched according to companies' need. This project leads to minimize the amount of waste sent to landfills, save the energy and optimize natural resource/energy consumption. We aim to engage with various stakeholders in our value chain to communicate

our 2030 Sustainability Roadmap and aim to influence our value chain to take part in maximizing efforts to facilitate the transition to a low carbon economy.

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 actively engages in contributing in the emerging issuance of mandatory carbon reporting regulation which includes cement industry emission reporting. Akçansa environmental department participates in the consultation process and 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 done for every year. The current mechanism in discussion has considerable uncertainties. Therefore, we support with major exceptions.
Cap and trade	Neutral	Turkey has been implementing a World Bank funding on Carbon Market Readiness Partnership program (PMR). Akçansa support the Ministry of Environment and Urbanisation on the implementation of this pilot program. And participates in all meetings.	PMR Project has not been finalized yet, 2nd phase of project completed. Pilot ETS has been studied and the climate law draft has been in consultation. As Akçansa, we are in the position to be neutral on our position regarding this legislative issue. We await for more clarification to update our corporate position.

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 in place which we support, but no further proposal for new regulations yet.
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C12.3e

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

Akçansa is closely working with the universities (ITU and 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 recently established its 2030 sustainability roadmap containing 36 KPIs to monitor its performance. One of the 6 pillars of this roadmap is reducing environmental footprint. Under this pillar, the main focus is reducing CO2 emissions. In order to achieve these targets, the process is monitored and approved by our Sustainability Steering and Working Committees and associated/necessary direct and indirect engagement actions are planned accordingly. Executive committee and the sustainability committee periodically check the progress. The results are shared with the stakeholders through our sustainability report available on Akçansa web site. Our engagements towards influencing the policy is therefore monitored and maintained as consistent with our overall corporate as well as climate change strategy.

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

 Sustainability-Report-2018-2019.pdf

Page/Section reference

-22 to 25

-48 to 52

Content elements

- Governance
- Strategy
- Emissions figures
- Emission targets

Comment

C15. Signoff

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

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